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# THE LIBRARY QUARTERLY



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# THE LIBRARY QUARTERLY

A Journal of Investigation and Discussion in the Field of Library Science

Established by The Graduate Library School of the University of Chicago with the Co-operation of The American Library Association, The Bibliographical Society of America, and The American Library Institute.

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# THE LIBRARY QUARTERLY

VOL. I

CONTENTS FOR OCTOBER 1931

No. 4

SUGGESTIONS REGARDING AN EVALUATION OF METHODS IN  
CURRENT ADULT-EDUCATION PRACTICES - LEON CARNOVSKY 377

TO WHAT EXTENT DO THE STUDENTS OF THE LIBERAL-ARTS  
COLLEGES USE THE BIBLIOGRAPHIC ITEMS GIVEN ON THE  
CATALOGUE CARD? - - - - - SUSAN GREY AKERS 394

REPORT OF BUREAU OF STANDARDS RESEARCH ON PRESERVA-  
TION OF RECORDS - - - - - B. W. SCRIBNER 409

THE COLLEGE-LIBRARY BOOK BUDGET - WILLIAM M. RANDALL 421

CLASSIFICATION AND CATALOGUING IN THE SCANDINAVIAN  
COUNTRIES - - - - - CLAUDE H. CHRISTENSEN 436

JOHANN NEUMEISTER: AN ASSISTANT OF JOHANN GUTENBERG?  
RUTH A. KETRING 465

THE CONTRIBUTORS TO THIS ISSUE - - - - - 476

THE COVER DESIGN - - - - - 477

## REVIEW ARTICLE

Walter Hofmann, *Die Lektüre der Frau. Ein Beitrag zur Leserkunde und zur Le-  
serführung* - - - - - DOUGLAS WAPLES 478

## REVIEWS

Fritz Milkau (ed.), *Handbuch der Bibliothekswissenschaft* J. C. M. HANSON 487

British Museum, *General catalogue of printed books* WILLIAM WARNER BISHOP 489

Edna A. Hester, *Books for junior colleges* - - - LEON CARNOVSKY 492

Marcel Godet and Henri Turler (eds.), *Dictionnaire historique et biographique  
de la Suisse* - - - - - ALBERT SCHINZ 495

Constance Brooks, *Antonio Panizzi: scholar and patriot* H. M. LYDENBERG 497

*The Papers of the Bibliographical Society of America* - - PIERCE BUTLER 498

INDEX TO VOLUME I - - - - - 500

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# THE LIBRARY QUARTERLY

*Volume I*

OCTOBER 1931

*Number 4*

## SUGGESTIONS REGARDING AN EVALUATION OF METHODS IN CURRENT ADULT- EDUCATION PRACTICES

NOTE ON SOURCES:—Data concerning practices in adult education are found in the "Studies in adult education," sponsored by the Carnegie Corporation, as indicated in the footnotes. The psychological principles employed were taken from the unpublished "Official record of the Commonwealth Teacher Training Study," by Charters and Waples. The principles were selected from over one hundred texts in educational psychology by Professors F. N. Freeman, V. A. C. Henmon, and E. H. Cameron, as supported by experimental evidence.

IT IS difficult, and for present purposes not particularly important, to set any certain date as signifying the origin of the adult-education movement, either here or abroad. This study deals with current practices of existing adult-education agencies, and presents evidence as to their aims, methods, and equipment, the latter in terms of subjects taught, students, and teachers. These factors are considered in the light of established principles of learning in order to estimate how much actual education is taking place. No attempt, however, is made to describe results. Whatever results have been claimed are evidently based on superficial observation, and are seldom trustworthy. The whole movement is so recent that satisfactory criteria have not yet been developed whereby results might be evaluated. In the absence of data concerning

the outcomes of adult education, the accepted principles of learning as applied to the methods used by existing agencies are, perhaps, as satisfactory a criterion as any available.

In addition to an evaluation of the methods used by agencies of adult education, it would be still more significant to evaluate the educational content. No such evaluation has been attempted for two reasons, namely, the extreme difficulty of determining with satisfactory definiteness what the content of instruction supplied by each agency is, and the lack of data regarding the educational needs of the adult groups served by each agency whereby the value of the content might be estimated.

One of the best-known forms of adult education in America is the forum. The forum goes back a considerable distance in American history, and it has achieved some prominence in recent times through being linked up with the adult-education movement. Indeed, owing to this connection, it is probable that the public forum is more extensive today in America than it has ever been in the past. The main features of the forum are three. There is an address, usually by a fluent speaker, often one who has achieved some distinction in his field, sometimes one who has become popular through his facility of expression rather than his scholarship. Sometimes a debate between two prominent persons is substituted for the address. Following the address the meeting is open to the audience, and questions relating to the topic of the evening are asked of the speaker. Sometimes these are written, more often oral.<sup>1</sup>

The subjects of address vary widely from week to week, the usual interval between meetings. The program of the Ford Hall Forum for a recent year included addresses by Dr. Stephen S. Wise on "How shall America deal with the menace of the Ku Klux Klan?"; by Rev. J. Vint Laughland on "The Rise to power of the British Labour party"; by Dean Charles R. Brown on "What the church has to say to labor"; by Professor Felix Frankfurter on "The Meaning of the Progressive movement"; by Professor Manly O. Hudson and Dr. Herbert Adams

<sup>1</sup> Nathaniel Peffer, *New schools for older students* (New York, 1926), pp. 13-14.

Gibbons on "To be in the League of Nations or not to be?"<sup>1</sup> The list is fairly representative of the forum "content" throughout the country. Although there is undoubtedly some difference of opinion as to the relative merits or authority of the speakers, they are on the whole of high quality. The subjects range widely, with a common emphasis on current public interests. The programs are often lacking in continuity, and the subject for one meeting may be quite unrelated to the subjects of other meetings in the same series.

The character of the forum patronage varies with the organization under whose auspices the meetings are held. Ford Hall draws its membership principally from the working classes—"factory workers, artisans, and small shopkeepers constitute the great majority. . . . One-third are of foreign birth and more than one-half of foreign parentage." The audience always contains a liberal sprinkling of radicals.<sup>2</sup>

It remains now to ask what evidence is at hand for an evaluation of the aims and method of the forum as described. One type of such evidence consists in the principles that are known to operate in the learning process. It is both possible and convenient to consider these principles as representing at least eight types of learning, which are of course by no means discrete:

1. Acquisition of acts of skill
2. Developing adequate perceptions and habits of observation
3. Acquiring associations and memorizing
4. Acquiring ideas or knowledge
5. Gaining understanding and problem-solving
6. Developing appreciations
7. Developing attitudes
8. Developing character

As far as the foregoing description indicates, the forum is primarily concerned with the teaching of ideas or knowledge, although it is obvious that other types of learning are contributory. The following psychological evidence is therefore pertinent to the question:

Ideas, the elements of knowledge, are derived from perceptual experience.—PYLÉ.

<sup>1</sup> *Ibid.*, pp. 20-21.

<sup>2</sup> *Ibid.*, p. 19.

Considering the students of the forum, one may grant in part the applicability of this principle, since they come with a wide variety of perceptual experiences, however imperfectly organized. But it is necessary to ask the further question, What sort of experiences are there? Unless the experiences are actually used in the learning process, the extent of the learners' experience is largely irrelevant. In a typical forum situation, is it likely that such an application will be made of the individual experiences? Obviously not; especially when one considers the subject of each evening's address and the varying elements represented in the forum patronage. At least the evidence permits no such conclusion.

Commentators have made much of the educational value of the questions from the floor. At the present time we cannot say this is more than subjective opinion. So many personal elements enter into these questions that it is dangerous to generalize.

From the foregoing point of view we may conclude that the forum has a value as presenting important ideas to a general audience. The extent of this value apparently depends upon the proportion of the audience which is stimulated to develop such ideas by further study. The size of this proportion needs to be determined.

Somewhat closely allied to the forum in content and method is one branch of institute activity, that providing for public lectures. The Lowell Institute of Boston and the People's Institute of New York should be noted here as offering the better class of program. Briefly, the programs consist of a series of related lectures, each lecture dealing with one particular phase of such general topics as "A History of liberty," "The Aftermath of the war," and "The Medieval political theory and the principles of modern political organization." During 1924 the Lowell Institute offered ten series of lectures,<sup>1</sup> among them eight lectures by George Stewart Adams, of Oxford University, on "Idealism and realism in politics"; eight lectures by Professor Alfred North Whitehead, of Harvard University, on "Science and the

<sup>1</sup> *Ibid.*, p. 32.



modern world"; eight lectures by Major General Sir Frederick Maurice on "Robert E. Lee, the soldier." Lectures are held twice a week, with an average attendance of about four hundred. No admission fee is charged.

The People's Institute conducts three series of lectures, on Sunday, Tuesday, and Friday evenings. The Friday lectures are all delivered by Everett Dean Martin, director of the Institute, and embrace such subjects as "A History of liberty," "What it means to live in an unfinished world," "A New liberalism," etc.<sup>1</sup> For 1928-29 the Sunday lecture series was entitled "Ethics and social science," and the Tuesday series "The American Institute science lectures." The lecture for each week was delivered by a different speaker, and had practically nothing in common with the other lectures, even in the same series. The audience is made up substantially of the same elements that make up the Ford Hall Forum, the attendance averaging a thousand.

Results of the Institute lectures do not differ greatly from those of the forum lectures. One tangible result has come out of the Institute lectures which tends to confirm the conclusion that the forum serves to stimulate further learning. This result is the organization of a school from the Institute. The school was the response to a demand on the part of a number of Mr. Martin's audience for an opportunity to study in greater detail the matters discussed in the lectures. Mr. Martin's personal observations as to the direct results of the lectures are that the listeners overcome their prejudices; they develop reading habits and a sense of humor; they acquire new interests; and they organize serious classes.<sup>2</sup> If we grant that all this is so, the question still remains: Do these things happen as frequently and as intensively as they might? And to what proportion of the total group do they happen?

We come next to a consideration of what is probably the most extensive type of adult education, namely, classes under the guidance of a teacher. While this classification justly fits all the

<sup>1</sup> *Report of People's Institute, 1928-29*, pp. 18-19.

<sup>2</sup> Interview with E. D. Martin, October 18, 1929.

agencies next to be discussed, there are certain differences which will be brought out. The establishment of the school of the Institute has already been mentioned. This school is in session four evenings a week, from November to May, in one of the New York branch libraries. In fact, the classes have much more in common with the Institute than they have with a school. Attendance averages seventy-five at each meeting, and each class period consists of a lecture followed by questions from the floor. The lecturers are selected from college and university faculties.

More intensive in its method is the readers' round table of the People's Institute. The round table was conducted during a recent year at six library branches, and consisted of lecture, discussion, and reading courses on "Modern art" and on "The Development of Western thought." The classes in modern art spent five evenings on each of the following arts: painting, music, sculpture, poetry, and the drama. Discussion of each art was led by a different individual. The course "Development of Western thought" was conducted by Richard McKeon (classical and medieval thought) and John Storck (Renaissance and modern thought), and was based on readings from the important writers and thinkers, from Homer and the Old Testament to Nietzsche and Freud.

The small group as described seems adapted to various types of learning. Under each type certain psychological principles peculiar to it are discussed.

#### I. ACQUIRING ASSOCIATIONS AND MEMORIZING

- a) A man's memory in a given province will depend far more upon interest and frequent recall than upon the quality of inherited memory.—THOMSON.
- b) [Rules for acquiring associations and memorizing—FREEMAN.]
  1. Get the meaning clearly in mind.
  2. Make as many repetitions as are necessary to fix the arbitrary associations.
  3. Continue the repetitions beyond the threshold.
  4. Distribute the repetitions.
  5. Attempt to recall during learning.
  6. Make the first perusal with especial care.
  7. Avoid false associations.

In this connection the evidence indicates some things but is silent on others. The element of interest is apparent in the regularity of attendance at class meetings, but we know nothing of the kind of interest. Is it the interest that derives from the prospect of entertainment, and to what extent does the interest contribute to the learning process; how will it affect one's remembering what one hears in class? If the evidence at all justifies an inference on this point, it is that the titles of the subjects discussed are so broad as to permit the treatment of anything remotely related to the central topic. But attendance under such conditions may be faithful without leading to systematic learning. The element of frequent recall is apparently absent. There is no direct emphasis upon drills or deliberate memorizing, a type of the learning process which seems to be purposely avoided. This suggests the further consideration: Is the psychological makeup of adults such as to permit the omission of frequent recall or memorizing and still bring about substantial learning? Certainly there is no evidence to this effect, yet the rôle of habit formation is so important in all learning we know anything about that its omission must be justified before such class work can be considered efficient or truly educational.

- c) Too often the learner makes his associations between a page and a sentence, neglecting and often all unconscious of the material world of things and experience which is mirrored in the symbols.—AVERILL.
- d) The greater the number of associative bonds formed between each important idea or fact that is learned and the knowledge and information that you already possess, the more profusely and promptly will the appropriate ideas come up when they are needed in originating such new and successful responses.—BOOK.

Here should be considered the relationship established by the learners between the material presented by the lecturer and the knowledge they already possess. For example, it is quite conceivable that the group leader, accustomed by academic background and contact with regular college students, will couch his lecture in language which, although readily understood, does not easily link up with such experience as may be common to the group. It is especially useful to mention this point because the "practical" experiences of the adult learner have been so

often emphasized, these experiences being considered as contributory to the learning process. It is true that he comes from a "world of things and experience," but are these experiences such as to permit their application to the principles discussed by the group leader? The whole point is simply this: Past experiences as such may be meaningless in any particular learning process; they get meaning when they are selected and recalled in appropriate relationships. And the evidence substantiates no faith that such a selective process is at work. In brief, we do not know whether the experiences of the group members ever become organized into a system of relationships that enable them to deal more intelligently with the problems "studied" by the group.

## II. ACQUIRING IDEAS OR KNOWLEDGE

See discussion under forum.

## III. GAINING UNDERSTANDING AND PROBLEM-SOLVING

- a) One of the chief functions of the school is to create situations that demand thinking of the reflective type.—CAMERON.

It is pertinent to ask if the adult-education agencies take over this function of the school; that is, do they create situations that induce reflective thinking? Two possibilities present themselves. First, the group leader may point out two or more possible ways of deciding a certain problem, thus creating a "forked road" situation, and then decide it himself for the group. This would provoke little reflective thinking by the normal listener. Or second, in the subsequent discussion by the group they may come to some sort of conclusion out of their own experiences and private opinions. How effective or important such reflective thinking is depends upon whether the group members have in mind the facts needed to reach a wise judgment. Again, it is possible that the lecturer's demonstration of correct methods of reflective thinking may help the listeners to think more efficiently themselves.

- b) Since reasoning depends upon experience, one cannot reason in fields where he has had no experience.—PYLE.

- c) Training in reasoning is rather specific. We cannot reason well in any field unless we have experience in that field.—PYLE.

Here, too, we may ask whether the experience acquired by adults is such experience as will contribute to his reasoning ability. And is the organization of the class, in terms of aims, content, and method, such as to fuse the experiences of the group members and the ideas presented by the lecturer into a unity? A survey of what the adult educator is trying to accomplish, the materials he has to deal with, and the way he is going about the accomplishment yields no evidence that permits a satisfactory answer on this point. It would be highly useful for students to collect evidence regarding the amount of this type of adult education which is truly educational and not merely recreational.

A few of the more prominent ventures in adult education may be represented by the class under a leader. One of the best known is the New School for Social Research in New York. This School announces as its purpose: "To seek an unbiased understanding of the existing order, its genesis, growth and present working, as well as of those exigent circumstances which are making for its revision."<sup>1</sup> About three-fourths of the students in the School come with some previous academic training, a considerable number being college graduates. A large number of courses are offered, and classes are held one evening a week for each course. Lecturers for recent years included John B. Watson, Harry A. Overstreet, Everett Dean Martin, Horace Kallen, A. A. Goldenweiser, and others of equal prominence.<sup>2</sup> The educational policy is shaped in large measure by the student body. They may organize their own group, and the school supplies the leader.

The Rand School of Social Science, in New York, is definitely affiliated with the Socialist movement, and its courses reflect this connection. There is a strong emphasis on labor problems. The School is headed by Algernon Lee, a prominent Socialist, and the faculty includes Scott Nearing, David P. Berenberg, August Claessens, and A. A. Goldenweiser.<sup>3</sup> The students are

<sup>1</sup> Quoted in Peffer, *op. cit.*, p. 62.

<sup>2</sup> *Ibid.*, pp. 65-68.

<sup>3</sup> *Ibid.*, p. 73.

mainly wage-workers, and include a large foreign element.<sup>1</sup> About half the courses are in the field of social science; most of the remainder are in science, literature, and art, with a few in English language, composition, and debating.

The Bryn Mawr Summer School for Working Women announces its purpose and plan thus:

To offer young women in industry opportunities to study liberal subjects and to train themselves in clear thinking; to stimulate an active and continued interest in the problems of our economic order; to develop a desire for study as a means of understanding and enjoyment of life. The School is not committed to any theory. The teaching is carried on by instructors who have an understanding of the students' practical experience in industry and of the labor movement. It is conducted in a spirit of impartial inquiry with freedom of discussion and teaching. It is expected that thus the students will gain a truer insight into the problems of industry and feel a more vital responsibility for their solution.<sup>2</sup>

The student body is composed of young women from the industrial world, primarily factory workers. These are chosen from all sections of the country, the idea apparently being to broaden points of view through contacts. The curriculum consists of economics, composition, hygiene, which are all compulsory, and one of three electives—literature, psychology, or science. In addition to the twelve class hours a week there are tutorial periods, two or three a week for each class. Discussion in class is relied upon to bring out the difficulties and contrary points of view. During the tutorial period such difficulties as may persist are gone over and the girls are helped individually. Here, too, they are assisted in whatever difficulties they have encountered in their reading.

Other agencies making wide use of classes under a leader include the Young Men's and Young Women's Christian associations, classes organized by private corporations, and the tremendous number of evening classes in high schools and colleges. In general, however, their aims, content, and method do not differ substantially from those of the agencies that have been

<sup>1</sup> M. T. Hodgen, *Workers' education in U.S. and England* (New York, 1925), p. 217.

<sup>2</sup> Quoted in Peffer, *op. cit.*, pp. 76-77.

mentioned in greater detail, so there is but little to be gained by treating each agency separately.

The university extension movement embraces a wide variety of services, many of which fall outside the scope of this paper. Such activities as the organization of agricultural clubs among the rural population, the sending-out of demonstration units, the dissemination of information derived from experiments conducted by engineering or agricultural experiment stations will not be considered. The two phases of the work which fall properly within the study are extension classes and individual instruction by correspondence. The former belongs in the category "classes under a leader," and what has been said in that connection may be applied here.

In general, the purpose of university extension is to take, in so far as possible, the university to the student who is unable to attend in person. Three divisions of the fields of study are indicated by the motives of the student body:

1. The students who desire to gain vocational or professional skill for the sake of economic improvement
2. The students who are actuated by an interest in things in general
3. The pursuers of "culture"—"that they may live more abundantly" through greater appreciations, power of discrimination, improved tastes, etc.<sup>1</sup>

It is generally expected that the movement will lead to increased vocational skill, wider knowledge, and a sense of cultural values. These "values" are unevenly stressed, dependent upon the particular universities, the geographical location, the makeup of the student body, and other factors.

The courses offered by the university extension department are as far as possible the courses offered to the regularly enrolled student body by the university. For a recent year departments offering the greatest number of courses ranked as follows: education, engineering, English, history, Romance languages, mathematics, ancient languages, commercial subjects. There are a number of factors which determine the courses that may

<sup>1</sup> R. R. Price, presidential address before National University Extension Association, quoted in A. L. Hall-Quest, *The University afield* (New York, 1926), pp. 45-46.



be offered, the most important being (1) availability of instructors, (2) public demand, (3) adaptability of courses to extension teaching.<sup>1</sup>

A sampling of the enrolments at a number of universities offering extension courses showed that 60 per cent of the students were teachers. This accounts in large measure for the fact that the education department led in number of courses offered. The next largest group was commercial—clerks, book-keepers, and stenographers. Almost every conceivable occupation was represented, although figures showing which vocations, aside from teaching, contributed the greatest number of students are not available.

The method of instruction is correspondence. In general, the procedure is as follows: definitely organized lesson sheets are sent to the student at certain intervals. Assignments consist of required and suggested readings, and exercises which are mailed back to the university for correction or criticism, after which they are returned to the student. There is, of course, no personal supervision in the sense of a face-to-face relationship, but it would be a mistake to assume that personal direction is lacking. On the contrary such direction is very much a part of the system.<sup>2</sup>

The types of learning which the university extension movement as described seems most likely to bring about are acquiring associations and memorizing, acquiring ideas or knowledge, and gaining understanding and problem-solving, though it is not implied that other types may not or do not take place.

The psychological principles discussed under "classes" may for the most part be applied here. Certain variations, however, may be indicated.

- a) A man's memory in a given province will depend far more upon interest and frequent recall than upon the quality of inherited memory.—THOMSON.

With regard to interest, enrolment mortality figures are significant. At the University of Chicago over a three-year period the percentages of students failing to complete courses,

<sup>1</sup> Hall-Quest, *op. cit.*, pp. 103-4.

<sup>2</sup> *Ibid.*, chap. ix.



for whatever reason, follow:<sup>1</sup> in English, 26 per cent; in education, 20 per cent; in history, 25 per cent; in Romance languages, 24 per cent; in mathematics, 30 per cent. These proportions vary with different institutions; in fact, the figures for the University of Chicago are comparatively low. Consider, for example, the percentages for the University of Wisconsin, where the drop-out is: English, 43 per cent; education, 36 per cent; history, 55 per cent; Romance languages, 46 per cent; mathematics, 60 per cent.<sup>1</sup> These figures are incomplete in that they do not reveal how far any number continued in the course before dropping it. And they say nothing about the reasons for dropping a course; however, it is not unfair to suggest that lack of interest may very likely be a contributing factor in many cases (see also the discussion on pp. 382-83).

- a) A man's memory in a given province will depend far more upon interest and frequent recall than upon the quality of inherited memory.—THOMSON.
- b) [Rules for acquiring associations and memorizing—FREEMAN.]
1. Get the meaning clearly in mind.
  2. Make as many repetitions as are necessary to fix the arbitrary associations.
  3. Continue the repetitions beyond the threshold.
  4. Distribute the repetitions.
  5. Attempt to recall during learning.
  6. Make the first perusal with especial care.
  7. Avoid false associations.

The statements previously made in connection with these principles may well be taken to apply to university extension. It should be noted, however, that the large proportion of the student body with academic background seems to imply a more common meeting ground than is likely to be present in the type of classes before described. On the other hand, in the absence of direct physical contact and supervision, there is certainly danger of neglecting the material world altogether in the learning process (see also IIIb and c, pp. 384-85, and discussion there following).

The final adult-education agency to be considered is the pub-

<sup>1</sup> *Ibid.*, p. 124.

lic library. A survey of the services performed by the library shows a great number of activities, though not all by the same institution. For present purposes it will be enough to indicate the three main divisions into which such activities fall: (1) advisory service to individual readers who seek to carry on their education, either in a general way or by specializing along some particular line; (2) information service with regard to other adult-education agencies operating within the same city; (3) co-operation with such agencies, especially with respect to supplying reading materials.<sup>1</sup> Thus, the latter two types of activity are more or less passive as far as actually carrying on adult education is concerned. Consideration of the library will therefore be confined to the first, the advisory service to individual readers.

It will be noted that the major service of the library, that of supplying books in general, has been excluded from this discussion. The reason is that the library does not, in this function of supplying books for whatever purpose, whether for entertainment or for serious study, consciously direct a learning process. This, rather, is attempted by the readers' advisory service, although, of course, there is no implication that reading without such direction is without educational value.

A description of a typical adviser-learner situation is provided by Miss Miriam D. Tompkins, formerly readers' adviser of the Milwaukee Public Library.<sup>2</sup> "Mr. ——— has left school at an early age, and suddenly realizes, in a hazy way, that he would like to continue his education. He has no definite ideas as to just what he wants; he is conscious only of a social maladjustment that he feels might be remedied if he had an education. Perhaps he has just lost his job, or is having difficulty in finding one, and he blames his educational deficiencies for his situation. He comes to the readers' adviser for help and guidance. An interview is held, in the course of which the readers' adviser attempts to discover along what lines his particular interests lie. A preliminary course of reading is prescribed, vary-

<sup>1</sup> American Library Association, *Libraries and adult education* (Chicago, 1926), p. 9.

<sup>2</sup> Interview with Miss M. D. Tompkins, November 15, 1929.

ing in complexity with the amount of schooling and other educational equipment he may possess. After one or two books have been read, another interview is held, in which the readers' adviser attempts to ascertain how the program she has prepared is likely to achieve its purpose. Or perhaps the one or two books are preliminary to a course of study, and the interview better enables her to compile a reading list. Very often, of course, Mr. ——— is not interested in improving, or continuing, his education in general; he may be interested only in learning something about real estate or Greek tragedy or Gothic architecture. In such case the procedure will not vary greatly, though naturally the emphasis will be placed upon the particular subject rather than upon education in general."

The preparation of the course of study, or reading list, is thus seen to be the important thing. It must list books that satisfactorily cover the particular field of interest, and the books must be within the compass of the reader's understanding and such as to maintain his interest. The value of the reading list in the foregoing terms is dependent, then, in large part upon the person who prepares it. Obviously the readers' adviser is competent to prepare such lists in but a limited field, so she supplements her own abilities with the services of specialists in those fields in which she recognizes her incompetence. These specialists are sometimes found on the library staff, more often on the faculties of local high schools, colleges, and universities. Use is also made of the "Reading with a purpose" series issued by the American Library Association. This series consists of about sixty small pamphlets, each presenting an introduction to a particular subject or phase of a subject, and listing six or eight books through which one may continue one's study. Other bibliographies are also used to supplement the lists compiled by the readers' adviser.

Without an extensive study of the records kept by the readers' advisers, it is not possible to state which age or occupational groups or sex or nationalities are most widely represented. Not much more is known as yet with respect to their reading interests. For the brief period that such services have been insti-

tuted, figures are available on the number of courses prepared in some libraries. In the Chicago Public Library, during its first year of readers' advisory service, 98 courses were prepared in literature, 23 in psychology, 19 in good English, 15 in history, 11 in fine arts, 9 in general culture, 8 in economics, 7 in journalism, and 5 in religion.<sup>1</sup> From October, 1923, to January, 1925, 230 courses were prepared on 177 subjects. The Milwaukee Public Library supplied some 1,500 reading courses during 1928-29.

It is interesting here to point out a recognized pedagogical limitation of the reading course. Professor L. J. Richardson, director of the University of California University Extension Division, says:

These [reading courses] are to be commended provided people are not led to believe that they constitute a complete method of training. Attempts to carry on educational work solely through lists of selected books have generally met with only partial success. No matter how many books a person reads on a given subject, he may go astray in his thinking if an opportunity is not afforded from time to time whereby his work may be tested and corrected. A false point of view or some defect in technique may persist for a long time and preclude the best results. Extensive and carefully planned reading is . . . an important and necessary feature in adult education; but if the student is to make the most of his time . . . he cannot afford to leave out any of the necessary steps in his training. One such step is direct and personal contact with some person who may be regarded as an expert. . . . It is evident that a course of reading, however carefully planned, cannot meet all the needs involved in adult education.<sup>2</sup>

Referring now to the types of learning recognized in this paper, an examination of the psychological principles involved in each of them makes it evident that the library's advisory service, although probably contributing something to all the types, does not contribute sufficiently, at least as far as the evidence indicates. But it is safe to say that it, like the forum, has a value in presenting general ideas or knowledge. And an evaluation of what this service is worth, educationally, must be based upon the proportion of its patrons who are thereby stimulated

<sup>1</sup> American Library Association, *op. cit.*, pp. 225-26.

<sup>2</sup> *Ibid.*, pp. 35-36.

to continue their study either in classes under a teacher or by more concentrated application than the advisory service affords.

This paper is a preliminary sketch of certain phases of the adult-education movement. As such it does little more than point the way to further investigation. Nothing has been said, for example, of the actual results achieved thus far, the reason being that these are not as yet known in terms of trustworthy facts. There has also been some intimation that the adult-education agencies could accomplish more if they observed certain psychological principles of learning. The failure to observe these principles is due either to an ignorance of them or to a deliberate avoidance on the assumption that they are inapplicable in the teaching of adults. More probable than either of these reasons is the frank recognition that although the psychological principles are important in a school situation, if formal school methods were employed the attendance would suffer; indeed, it would probably be said that the very use of such methods caused many of the patrons of adult-education agencies to leave school at an early age.

Perhaps the whole point of this paper will be made clear by a statement of what the writer has not attempted to do. He has not wished to imply that current methods in adult education are without value; on the other hand, he has not attempted specifically to point out wherein this value lies. He has merely considered current practice in adult education from the standpoint of established principles of educational psychology. It is probable that if other criteria were used, a different estimate would result, but the application of such criteria is clearly beyond the scope of this paper. It is hoped, however, that the problems pointed out suggest something of the richness and scope of adult education as a field for systematic research.

LEON CARNOVSKY

GRADUATE LIBRARY SCHOOL  
UNIVERSITY OF CHICAGO

TO WHAT EXTENT DO THE STUDENTS OF THE  
LIBERAL-ARTS COLLEGES USE THE BIBLIO-  
GRAPHIC ITEMS GIVEN ON THE CATALOGUE  
CARD?

A CATALOG is a tool . . . and the only correct basis on which to judge a tool is with reference to its function. . . . In considering [this] it is necessary to take into consideration two factors: the material upon which the work is to be done, and the person who is going to do the work. And applied to library catalogs this means that we have different kinds of libraries to be cataloged, and we have different kinds of patrons who use the catalogs."<sup>1</sup>

The implication of the foregoing quotation is that in order to make a good catalogue it is necessary to know the needs of the users of that catalogue; that there may well be as many different kinds of catalogues as there are types of libraries and types of users of those libraries.

This study was undertaken as the first step in ascertaining to what extent the existing card catalogues in liberal-arts colleges meet the needs of the students. The needs of the faculty and of the library staff would also have to be taken into consideration in any final appraisal of catalogue needs. The specific purpose of this study is to find out which of the items usually found on the cards in the catalogues of liberal-arts college libraries are actually used by the students and what items not given on the cards, or at least not ordinarily given, the students think that they would use, if they were available.

This inquiry should also indicate whether or not the methods employed are adapted to a study of the extent to which the catalogue in the liberal-arts college and in institutions of other types and sizes serves its potential users.

The results of such a study may be expected to be of interest

<sup>1</sup> W. M. Randall, "The Uses of library catalogs, *'Catalogers' and classifiers' year-book*, II (1930), 26-27.

to the makers of the catalogues in liberal-arts colleges, to teachers of cataloguing, and to the one who gives the lesson or lessons in the use of the catalogue to the students of such colleges. These results may also be suggestive for the makers of catalogues for libraries of other types and sizes.

This study is based on the following assumptions: (1) that the student in the liberal-arts college should use the card catalogue; (2) that the librarian knows which students use the card catalogue more or less frequently; (3) that the students, selected by the librarian, would check such a list as this carefully; (4) that students know and remember what items on the catalogue card they are in the habit of using; (5) that students know offhand what information they would like to have on the catalogue card, which is not usually given.

#### PROCEDURE

It was decided that a check list sent to students in liberal-arts colleges was the best available method for securing the desired information about the students' use of the catalogue. Two other possible methods are (1) personal interviews of students, and (2) diaries to be kept by the students over an adequate length of time. Every time the student consulted the catalogue he would record in the diary the information for which he consulted it and the items on the card of which he made use. Either of these two methods would secure more accurate data than the method used, but they would also require an expenditure of time and funds beyond what was available for this study.

A preliminary check list was made concerning the students' use of the bibliographic items found on the Library of Congress printed catalogue cards (which are used in the majority of the liberal-arts college-library catalogues), their understanding of the abbreviations used, their use of the different types of catalogue entries, and a request was attached that the students add any other item which they thought that they would use if it were on the card.

This preliminary list was submitted for criticism to the reference librarian of a large university library, because of her wide



experience in helping students to use the card catalogue. Her suggestions were incorporated and the list was submitted to four undergraduate students in the university. The list was then revised and given to eight undergraduate students in a liberal-arts college. It was again revised and mimeographed preparatory to sending it out.

Ten liberal-arts colleges representing the East, West, Middle West, and South, and men's, women's, and coeducational colleges were selected for this inquiry. A list was made of the information in regard to the catalogue and the students' access to the books which would be necessary in order to judge correctly of the students' replies regarding their use of the catalogue. A letter was sent to the librarians of these colleges explaining the purpose of the study and asking if she would (1) answer the list of questions pertaining to the catalogue and the students' access to the books, and (2) distribute the check list to thirty students who use the catalogue more or less frequently.

Ten librarians agreed to distribute the check lists, etc., and all returned the material, although one returned it too late for use in this paper. The list was checked by two hundred and fifty-seven students.

The data were tabulated on separate sheets for each college, then combined to show the total number of students who marked each item as "used," "not used," or "think they would use it if it were on the card."

There are two ways in which the accuracy of the students' checking may be determined. For example, according to the information secured from that on file at the Graduate Library School of the University of Chicago and that secured from the list sent to the librarian to be checked, all of the catalogues have cross-reference cards for different forms of names. Yet seventeen students from all nine colleges use the symbol which signifies that they would use such cards if they were in the catalogue. This may indicate inadequate cross-reference cards rather than a careless filling-out of the check list.

Questions 1 *c-g*, 3*a-c*, 4*a-c*, 5*a-b*, 6*a-c*, 8*c*, 13, 14:26, and 14:27 on the check list have been marked by from one to forty-



six students with the symbol X, which indicates that they think they would use that item if it were given on the card. Forty-six students checked question 13 with an X; seventeen, 3c; and thirteen, 6a. The other questions were checked by nine students or fewer. According to the data from the librarian's check list and the files at the Graduate Library School, these items are on the catalogue cards of these nine libraries.

The other check upon the accuracy of the students in marking the check list may be made by comparing the same students' answer to such questions as 14:26, "Indicate whether or not you understand the abbreviation 25½ cm.," and 9d, "Indicate whether or not you use the information about size." Obviously, if the student does not understand the symbol for indicating the size, he does not use the information about it. Thirty-one students, representing all nine colleges, marked 14:26 "no" and 9d "yes." However, the marks of each student for all such questions were compared, and this is the only one on which a significant number of students contradicted themselves.

Probably these inaccuracies occur in more or less the same proportion with reference to the other questions on the accuracy of which there is no check. It was suggested too late for use in this study that more accurate data could be secured regarding the students' understanding of the abbreviations by asking them to give the term for which the abbreviation stood.

The reliability of these students as a sample of the students in liberal-arts colleges was tested by correlating the votes of one-half the students from each college with the votes of the other half of the students from each college in order to see if the group was homogeneous. Dropping out the odd number from five of the colleges left two hundred and fifty-two students.

The correlation coefficient was found to be  $0.88 \pm .0176$ . Using the formula

$$r_{II} = \frac{2r_{\frac{1}{2}} \cdot \frac{1}{2}}{1 + r_{\frac{1}{2}} \cdot \frac{1}{2}},$$

in which  $r_{II}$  represents the correlation coefficient between this group of two hundred and fifty-two students and another group

of two hundred and fifty-two students, and substituting 0.88 for  $r\frac{1}{2} \cdot \frac{1}{2}$ , a correlation coefficient of  $0.936 \pm 0.0120$  is obtained. A correlation coefficient of  $0.88 \pm 0.0176$  between the halves and of  $0.936 \pm 0.0120$  shows that the students in liberal-arts colleges are a very homogeneous group with respect to their use and understanding of the card catalogue. If this check list were sent to all the students in liberal-arts colleges, similar results should be expected.

The following comments from the librarians who distributed these check lists add something to the information about the students and the catalogues:

"This report is from present usage. The catalog was begun a long time ago . . . almost anything can be checked either 'yes' or 'no.' The students are given one lesson on the use of the library each year, followed by a problem, but one lesson is not remembered very well."

"The blanks were all filled by students who had not taken the bibliography courses."

"Although the questionnaire is very clear, some of the students who checked it think that in certain cases all three answers could be given, namely, 'no,' 'yes,' and 'would be useful if given.' These students pointed out that the Library of Congress does not always give the contents item where it might be useful."

#### THE FINDINGS

The check list given on the next pages includes the percentage of the votes on each question. For the seventy-four questions the range for the "yes" votes is from 11.1 to 100 per cent; for the "no" votes, 0-82.8 per cent; for the "would use if there" votes, 0-22.1 per cent; and for the questions left blank, 0-11.7 per cent.

Table I gives the different types of entries and the number of the two hundred and fifty-seven students who use each type, listing the type in order according to the number who use it.

Number 3c (name cross-reference cards) is included in this table; Nos. 3a and 3b are not included in any table or figure since they are not entries, items, or abbreviations. The votes on them are given on the check list.

Table II gives the same information for the various items usually included on the card that Table I gives for the types of entry. For example, the "date of the book" is the most fre-

TABLE I

DIFFERENT TYPES OF CATALOGUE-CARD ENTRIES RANKED BY NUMBER  
OF STUDENTS WHO USE THEM, AS INDICATED BY RETURNS

Type of Entry	No. of Students	Type of Entry	No. of Students
1a. Author.....	251	1g. Series.....	101
b. Title.....	251	1f. Translator.....	100
c. Subject.....	233	1e. Compiler.....	77
3c. Name cross-reference card.....	195	1d. Editor.....	62

TABLE II

ITEMS ON CATALOGUE CARDS RANKED BY THE NUMBER OF STUDENTS  
WHO USE THEM, AS INDICATED BY RETURNS

Item	No. of Students	Item	No. of Students
8c. Date of book.....	235	2. Author's dates.....	129
4b. Surname and initials...	214	9b. Paging.....	125
10. Contents note.....	214	11d. Descriptive notes.....	122
5b. Call number: to refer to shelves.....	213	11c. Information about reprint.....	109
4c. Surname and given names.....	202	7f. Illustration information in title.....	101
9a. Volumes.....	190	9c. Illustrations.....	107
7b. Edition information in title.....	179	11b. Information about appendixes.....	97
6b. Enough of title to show purpose and scope.....	172	12c. Series note for series to be read in order.....	92
8b. Publisher.....	164	7d. Translator information in title.....	90
13. Analytic paging.....	153	7a. Information about editor in title.....	75
8a. Place of publication...	142	7e. Information about illustrator in title.....	61
6a. All of title that is given	140	4a. Surname only.....	56
4d. Surname, given names, titles, pseud.....	140	7c. Information about compiler in title.....	55
12b. Series note for subject series.....	137	9d. Size.....	53
6c. Enough of title to identify the book.....	135	12a. Series note for all series	32
11a. Information about bibliographies.....	135		

quently used item, or rather is the item used by the largest number of students; the "series note for any series" the least-used item.

### THE ITEMS ON THE CATALOGUE CARD IN THE LIBRARY OF THE LIBERAL-ARTS COLLEGE

#### PURPOSE

The purpose of this inquiry is to ascertain what items now frequently put on catalogue cards in liberal-arts college libraries are used by the students who consult those catalogues *and* to ascertain what items *not* put on the cards would be useful. It is hoped that through this and similar studies a body of material may be collected from which it will be possible to determine what should be included on catalogue cards in order to make the catalogue a better means of revealing the contents of the library. The results obtained will be used in a course which will train cataloguers for college libraries.

#### DIRECTIONS

1. The following questions should be answered with reference to your use of the card catalogue in your library.
2. Please mark to the right of the statement regarding *each* item on the line provided for that purpose, using (1) ✓ if you *use* the item; (2) O if you *do not use* the item; and (3) X if you *think you would use* the item if it were included on the card.
3. Please suggest in the space provided at the end any other items which you think should be included.
4. Be sure to write the name of your college here \_\_\_\_\_

#### EXAMPLE OF CHECKING

1. Indicate whether or not you use the author's dates of birth and death which are given following his name. . . . . O X
2. Indicate whether or not you use the "contents" of the book listed on the card. . . . . ✓

SYMBOLS: ✓ means that you *do use* the item  
 O means that you *do not use* the item  
 X means that you *think you would use* the item  
 if it were included on the card

*How do you go about finding a book in the catalogue?*

1. Indicate whether or not you look under
 

	✓	O	X	—
a) The name of the author of the book	97.8%	1.5%	0%	.7%
b) The title of the book . . . . .	97.8	1.5	0	.7
c) The subject in which you are interested . . . . .	90.7	4.3	2.7	2.3

	√	0	×	—
d) The name of the editor of the book..	24.2	70.0	1.9	3.9
e) The name of the compiler of the book	29.9	62.7	1.9	5.5
f) The name of the translator of the book.....	38.9	53.3	3.9	3.9
g) The name of the series to which the book belongs .....	39.2	48.0	6.7	5.1
2. Indicate whether or not you use the author's dates of birth and death which are given following his name.....	50.1	41.7	5.5	2.7
3. Indicate whether or not you use				
a) The same spelling of the author's name that the catalogue does.....	85.2	10.5	.4	3.9
b) The same name for the author that the catalogue does.....	85.6	9.0	.7	4.7
c) The card which refers you from the name under which you look to the name under which the author's works are listed in the catalogue....	75.8	13.2	6.7	4.3
4. Indicate whether or not you look for				
a) Just the surname of the author of the book.....	21.8	71.6	1.1	5.5
b) The surname and initials for authors who habitually use initials.....	83.3	12.9	1.5	2.3
c) The surname and given names for authors.....	78.6	14.4	3.5	3.5
d) The surname, given names, titles of nobility, and pseudonyms of the author, e.g., Clemens, Samuel Langhorne, Mark Twain, pseud.; Disraeli, Benjamin, Lord Beaconsfield.....	54.5	34.9	5.9	4.7
5. Indicate whether or not you use the call number				
a) On the call-slip which you hand in at the desk when you want a book, or when you ask for a book at the desk	56.4	28.8	3.1	11.7
b) In order to find the book on the shelves for yourself.....	82.8	10.1	.4	6.7
6. Indicate whether or not you use				
a) All of the title that is given so as to find out as much as possible about the book without examining it.....	54.5	38.9	5.1	1.5

	✓	0	x	—
b) Enough to show the purpose and scope of the book. ....	66.9	24.9	3.5	4.7
c) Just enough of the title to identify the book. ....	52.6	40.4	.7	6.3
7. Indicate whether or not you use the following items often included as part of the title of the book:				
a) Information about the editor of the book. ....	29.2	65.8	4.3	.7
b) Information about the edition of the book, e.g., revised, new edition, etc. ....	69.7	25.3	4.3	.7
c) Information about the compiler of the book. ....	21.4	70.0	7.9	.7
d) Information about the translator of the book. ....	34.9	56.1	7.9	1.1
e) Information about the illustrator of the book. ....	23.7	65.8	9.0	1.5
f) Information about the illustrations, e.g., "illustrated with photographs taken by the author". ....	39.2	49.2	9.7	1.9
8. Indicate whether or not you use the information regarding				
a) Place of publication. ....	55.4	42.8	.7	1.1
b) Publisher of the book. ....	63.8	32.8	1.9	1.5
c) Date of the book. ....	91.5	6.7	.7	1.1
9. Indicate whether or not you use the information regarding				
a) The number of volumes. ....	73.9	23.4	2.3	.4
b) The number of pages. ....	48.7	46.7	3.9	.7
c) The illustrations. ....	41.7	53.7	3.9	.7
d) The size of the book. ....	20.5	73.3	4.7	1.5
10. Indicate whether or not you use the "contents" of the book listed on the card. ....	83.3	9.7	5.5	1.5
11. Indicate whether or not you use the information given regarding such items as that the book				
a) Contains bibliographies. ....	52.6	41.3	5.9	.4
b) Contains in an appendix such material as, e.g., a "list of the birds native to Illinois". ....	37.8	49.4	11.7	1.1

	✓	O	X	—
c) Is a reprint of a series of articles appearing in a specified periodical....	42.5	46.3	9.7	1.5
d) Contains such descriptive notes as, e.g., "A detailed account of an actual voyage lasting three years taken in a 37-foot sloop".....	47.5	41.7	9.7	1.1
12. Indicate whether or not you use the item regarding the series to which the book belongs				
a) For all series.....	12.5	76.3	3.5	7.9
b) For series which include only books dealing with that particular subject	53.3	34.1	6.3	6.3
c) For series which indicate the order in which the books should be read...	35.8	44.7	14.8	4.7
13. Indicate whether or not you use the paging when it is given for an article, essay, play, etc., in another work, e.g., the author and the title of the play are given, then the author and title of the collection in which the play will be found, then either in the left margin or in the main body of the card is given the paging, e.g., pp. 162-211.....	59.7	16.7	22.1	1.5

SYMBOLS: ✓ means that you *do* understand the abbreviation

O means that you *do not* understand the abbreviation

14. Indicate whether or not you understand the following abbreviations frequently used on catalogue cards:

	✓	O	—		✓	O	—
b. 1381.....	73.3%	24.4%	2.3%	tr.....	79.0%	18.3%	2.7%
c. 1402.....	45.1	52.6	2.3	pseud.....	86.0	12.5	1.5
d. 1492.....	73.3	24.4	2.3	2 p.l.....	31.8	60.0	8.2
2 v. in 1.....	93.4	5.5	1.1	xv.....	62.7	31.8	5.5
10 v.....	95.7	3.5	.7	195 p.....	89.4	7.9	2.7
25½ cm.....	38.1	57.5	.4	n.p.....	27.6	66.5	5.9
8°.....	15.9	79.7	.4	priv. pr.....	58.0	38.1	3.9
D.....	11.3	82.8	5.9	c1910.....	52.2	44.3	3.5
comp.....	92.1	7.5	.4	n.d.....	22.1	71.6	6.3
ed.....	98.1	1.9	0	4th ed.....	99.6	.4	0
illus.....	98.5	1.1	.4	rev. ed.....	100.0	0	0

	✓	o	—		✓	o	—
augm. ed....	84.5%	14.8%	.7%	phot.....	95.4%	5.1%	0%
rev. & enl. ed.	95.7	3.9	.4	ports.....	33.2	59.7	7.1
front.....	91.2	6.7	1.1	facsim.....	73.3	24.8	1.9
illus.....	99.3	.7	0	tab.....	80.1	17.6	2.3
col. pl.....	64.2	29.1	6.7	diagr.....	93.8	4.7	1.5

15. List here any *other* items which you would like to have given on the catalogue card.

As pointed out on page 397, more accurate results might have been secured if the students had been asked to give the term for which the abbreviation stood. Table III lists the ab-

TABLE III  
ABBREVIATIONS RANKED BY THE NUMBER OF STUDENTS WHO UNDER-  
STAND THEM, AS INDICATED BY CHECKING THE LIST

Abbreviations	No. of Students	Abbreviations	No. of Students
rev. ed.....	257	tr.....	203
4th ed.....	256	b. 1381.....	188
illus.....	255	d. 1492.....	188
illus. (in heading).....	253	facsim.....	188
ed.....	252	col. pl.....	165
rev. & enl. ed.....	246	xv.....	161
10 v.....	246	priv. pr.....	149
phot.....	244	c1910.....	134
diagr.....	241	c. 1402.....	116
2 v. in 1.....	240	25 $\frac{1}{2}$ cm.....	98
comp.....	237	ports.....	86
front.....	237	2 p.l.....	82
195 p.....	230	n.p.....	71
pseud.....	221	n.d.....	57
augm. ed.....	217	8°.....	41
tab.....	206	D.....	29

abbreviations ranked according to the students' votes as understanding them. It will be noted that with one exception the abbreviations used in headings are understood by one hundred and eighty or more of the two hundred and fifty-seven students; and the abbreviations concerning the edition by an even larger number. The variation is greatest for the abbreviations used



in giving the collation, and the abbreviations used in the imprint are the least understood as a group.

The more important of the comments by students are:

No. 2. Use of author's dates:

"Occasionally on special subjects."

"Usually."

"Depends on interest in author."

"Only when necessary."

No. 6a-c. With reference to how much of the title is useful:

"According to circumstances."

"Occasionally."

"Depends on the purpose for which the book is wanted."

No. 8a-c. With reference to the use of place, publisher, and date:

"Term reports."

"If required."

"Only for bibliography."

"Very important."

"Rarely used except for bibliographies."

No. 12a. Referring to series note:

"For some."

"Occasionally."

No. 14:1, b. 1381; No. 14:2, c. 1402; No. 14:3, d. 1492; and No. 14:31, c1910:

"Clarify abbreviations" [*A.L.A. Catalog Rules* use *ca.* for *circa* rather than the *c.* of Webster].

#### THE STUDENTS' SUGGESTIONS FOR THE CARD CATALOGUE

Under the request "List here any other items which you would like to have given on the catalogue card," the students wrote the suggestions given below. These suggestions were made by thirty-two different students from all nine of the colleges.

1. A catalogue with titles in alphabetical arrangement instead of alphabetical arrangement of authors.

2. I should like to see a card system arranged so that an average individual not having been in the library before could find a book . . . without having to bother the librarian for the required information. As for the cards, I do not believe that the thousand-and-one abbreviations used can be understood by anyone but a librarian. Why not simplify the entire system? It can be done.

3. Advocate use of a "master-card" filed in prominent place near catalogue file to enable readers or students to understand symbols and abbreviations, etc., found on catalogue cards; a dictionary of the abbreviations on the card.
4. Nationality of author.
5. Author's nationality when the name gives no clue, or when there is doubt; e.g., "HAMSUN—Denmark." This is superfluous if the title-page says "Translated from the Danish by ———."
6. A few of the best critics of the work or the author.
7. I think some information should be given concerning the literary school, or schools, to which certain authors belong; when the movement is generally known; e.g., the word "romantic," "impressionistic," "realist," etc., would allow more intelligent selection of reading in regard to any literary movement.
8. Complete list of author's works, date of publication, whether or not they are to be found in the library.
9. References to biographies of author, specific information as to location of supplementary material, such as additional books, essays, etc.
10. A better classification of the authors' works.
11. I should like to suggest that in the case of books of reference the position of the author be stated so that one might infer what authority the book carries if one is not acquainted with the author.
12. Authors of critical works on a particular person or book; e.g., "Criticism by Mr. So-and-So on the style of MARK TWAIN—TWAIN, MARK—*Huckleberry Finn*."
13. Annotations as to character of contents.
14. More information in regard to the contents.
15. A somewhat more general idea of the contents of the book.
16. In addition to using the words "edited by" for, say, Shakespeare, I think that if the work is expurgated that information should be added too. In other words, if a book is expurgated, it ought to be clearly classified as such.
17. If fiction, whether it is a best seller or not.
18. A statement of how recent the author's information is.
19. Date of writing (by author) of a certain book.
20. More detailed description of material in books.
21. More detailed information regarding the contents of the book.
22. The biographies should be numbered, not marked simply B.
23. The floor on which one can find a book marked 300, for instance.
24. If the sections of a library are numbered, I believe the section in which a book is to be found should be given on the catalogue card.
25. More cross-references.
26. Should like to see references to other sources on the same subject.
27. I should like also a better method of cross-filing that would include all the titles under a given subject so that one would not miss important books when one does not know the author or title.

28. Bibliographies of topics such as Mathematics, History, Art—Painting, Sculpture, Architecture, Dramatics—Astronomy.

29. I should like to have the catalogue kept up to date with regard to editions even if the library does not contain the latest revised edition.

30. A Preface, if there is one, and the name of its author.

31. The cost of the book.

32. The questionnaire does not indicate for what purpose the catalogue is being consulted. If for research, much more care would be taken than if the book were being selected merely for pleasure.

33. Cataloguing of governmental documents and treatises. Are there statistical catalogues?

34. Color of the book.

35. The card catalogue, as much as I have used it, seems to contain sufficient data to satisfy the needs of anyone seeking information on a book with which he is unfamiliar.

36. Even the best cataloguing system cannot give information which is often vital in the selection of a book—for instance, its style, the attitude of the author to his subject, the print, and paper. If the student were admitted to the stacks, it would be the work of a minute to find out all this by a glance through the book.

#### CONCLUSIONS

The findings of this study show that the use of the catalogue by the student in the liberal-arts college library is hampered by two related difficulties: The student does not know how to use the catalogue which is provided for his use and he does not know about other bibliographic aids.

Of the students' suggestions six concern the author, his nationality, or the school of thought to which he belongs. Eight show a desire for more information regarding the content of the book. Four point definitely to a desire for a better system of cross-references or some scheme which will inform the user of the catalogue of more material and of related material on the subject which is being pursued.

As indicated on page 395, a careful study of these findings will be suggestive for the maker of the liberal-arts college-library catalogue, for the person who gives the instruction in the use of the catalogue to the students, and for the instructor in cataloguing who wishes to point out to his students some of the problems of cataloguing and to suggest methods for their solution. They

should also prove suggestive to makers of catalogues in libraries of other types.

The findings suggest: the use of fewer abbreviations and a convenient list of those that are used with the terms for which they stand; that the meaning of all the items given should be made clear; that the problems involved in giving more information about the author and the content of the book than are now given should be carefully studied with a view to meeting this criticism of the catalogue.

The suggestions for the improvement of the catalogue are from only thirty-two students. A better method of securing information along this line needs to be developed and more data secured. Probably the personal interview is the best method for securing such data.

Certainly either the catalogue must be made self-explanatory or there must be a better system of instructing students in its use than now exists.

SUSAN GREY AKERS

UNIVERSITY OF NORTH CAROLINA

## REPORT OF BUREAU OF STANDARDS RESEARCH ON PRESERVATION OF RECORDS<sup>1</sup>

This report was prepared for discussion at a joint meeting, April 10, 1931, of the National Research Council Advisory Committee to the Bureau of Standards on Preservation of Records and representatives of the Bureau of Standards directly concerned. It is in the nature of a brief summarization of the general status of research on this subject and an outline of that being carried on at the Bureau of Standards. The advisory committee approved the continuance of the present program of studies at the Bureau and the general trend of the future studies as proposed in the report.

### GENERAL STATUS OF PRESERVATION OF RECORDS

The adequate preservation of records became a problem coincident with the development of modern paper-making materials and processes which took place largely during the nineteenth century. The trend toward modern practices became pronounced early in this century. Until late in the eighteenth century paper was generally made by hand, with a minimum of chemicals and with exceedingly careful attention to selection of raw materials and their processing. Such paper was necessarily so expensive that the writings and printings of those days could not be circulated widely. As education advanced, cheaper paper became a necessity; and, while this resulted in the evolution of the materials and processes that served the very laudable purpose of wide dissemination of knowledge and in improved intercourse, it introduced, largely through the improper selection of papers, the problems of preservation of important records on impermanent papers, and the suitable choice of

<sup>1</sup> Publication approved by the director of the U.S. Bureau of Standards of the Department of Commerce.

papers for permanent records. It has been noted that as far back as 1830 complaint was made of the generally poor resistance of writing and printing papers to deterioration. Along in the eighties complaints of libraries as to the unsatisfactory condition of their stored papers containing important records became universal. More or less effort has been made since this time to find remedial measures for this situation but without very definite accomplishments.

At the present time, however, there appears to be a crystallized realization of the importance of the subject, and of the need of systematic, scientific, and technologic research to solve the complicated problems involved. Several years ago the International Committee on Intellectual Co-operation of the League of Nations appointed a committee of scientists and librarians which has been making a study of available information that may assist in the better preservation of records. Several governments have adopted definite standards for the quality of their record papers. At the First World Library and Bibliography Congress held in Rome, 1929, this topic was given prime consideration. In England, the Library Association is actively working on standardization of the various types of papers used for records, and a technical committee has been formed to deal with the subject. In this country the American Library Association is actively interested, the Technical Association of the Pulp and Paper Industry has a standing committee working on the problem, and researches related to the problem are being made by the Rag Content Paper Manufacturers, by the various national government laboratories, and, separately, by a number of paper concerns. Several publishers of newspapers and periodicals are printing special library editions on papers designed to be permanent.

Prevention of deterioration of records is a complicated problem because of the variety of the chemical reactions that may take place within a paper finally to break down the fiber structure, with consequent loss of strength and discoloration. The basic constituent of the paper fiber, cellulose, has a complex structure and is yet not very thoroughly identified as to chemi-

cal and physical properties. It is susceptible, however, to degradation by chemical reactions, and these are accelerated by other chemically active components of paper such as rosin and alum used for sizing, iron and other metals introduced extraneously, and chlorine bleaching residues. The deteriorative effects are further complicated by the accelerating action of various storage conditions such as light, dust, acid-polluted air, and variations in temperature and humidity. Research on the subject has dealt largely with studies of the inter-effect of paper components. As will be noted in the following program of research at the Bureau of Standards, considerable emphasis is placed on study of the external deteriorative influences that may be present as a part of the library storage conditions.

#### PROGRAM OF BUREAU OF STANDARDS STUDIES

Study of the properties of papers related to their permanency became a major research of the paper section of the National Bureau of Standards in 1928. Two co-operating organizations are supplying personnel to assist in the work.<sup>1</sup> The present research staff consists of three chemists, one paper technologist, two paper makers, and two laboratory assistants. Following are the main items of the research program adopted:

1. Tests of current commercial fine papers and the fibrous raw materials used in their manufacture.
2. Tests of similar papers made in the bureau mill and, therefore, having a definitely known history.
3. Inspection and testing of papers of known age.
4. Study of means of overcoming influences found to be harmful to papers.
5. Research to find the nature of the reaction of paper celluloses to deteriorating influences.

The testing of the current papers and raw materials was undertaken first, as information on the relative permanency values of papers available at the present time appeared to be the most immediate need.

<sup>1</sup> The Carnegie Corporation of New York, through the National Research Council, and the Brown Co.



Item 5, research to find the nature of the reaction of paper cellulose to deteriorating influences, is, of course, the most important part of the program. While the preceding parts of the program were necessary to secure information that could be put profitably to immediate use, and to outline definitely the fundamental problems involved, it is only by attack of these fundamental problems that the desired information can be obtained. As previously mentioned, these problems are complicated by the lack of knowledge of the chemical and physical characteristics of the complex bodies having cellulose as their base, and will require the development of chemical and physical methods of testing, and special equipment for their application. The Bureau is installing equipment for such studies.

Following is a summary of the results so far secured.

#### STUDIES OF CURRENT PAPERS AND FIBROUS RAW MATERIALS

In the testing of the permanency qualities of papers, it is necessary to use, at present, empirical methods that as yet have little scientific foundation. The methods being used by the Bureau were adapted from methods generally used for paper and for other cellulosic materials. They comprise determination of alpha cellulose content and copper number to measure cellulosic purity, determination of components that may have a deleterious effect, such as rosin and acid, and measurement of strength. In addition, the relative stability of papers is measured by subjecting them to heat in order to accelerate the chemical reactions of the components, and then redetermining the more pertinent properties of the papers after the heat treatment.

As the test methods employed for this purpose have not been standardized, considerable development work on them is necessary. Various studies have been made of the heat test, such as time of heating, influence of moisture, and comparison with action of sunlight. The present procedure appears to be suitable but additional study of it is being made. Test methods proposed by various investigators for alpha cellulose, copper number, acidity, and pH, all of which appear to have an important bearing on permanence, have been studied. A report

of the study of the determination of alpha cellulose content and copper number of paper has been published<sup>1</sup> and a report dealing with acidity and pH measurements is being prepared for publication. Both the Government Printing Office and the Bureau of Chemistry and Soils, Department of Agriculture, collaborated in the development of acidity test methods.

A sufficient number of commercial book and writing papers have been tested by the methods mentioned to obtain thorough information on their relative permanency values as indicated by the testing procedures mentioned. The test values for commercial writing papers and experimental data concerning the testing, together with similar information on the raw materials used for such papers, have been published.<sup>2</sup> An important finding given in this publication is that, as far as can be judged by the testing procedure available, fibers having excellent permanency values can be produced from the lower-grade raw materials such as wood by careful purification. The published data are also further evidence of the high quality of cotton fibers in this respect. Studies of the paper-making qualities of commercial fibers of this kind in the Bureau paper mill confirmed the data regarding the relative permanency values of fibrous raw materials obtained by testing the commercial papers. They also yielded considerable information on the relation of various sizing processes and materials to paper permanency. The heat test of the experimental papers for stability showed that acidity derived from excessive amounts of alum lowered their stability and that rosin used in excess had a similar effect, but that starch and glue improved their stability. A report of these experiments, and a report of the tests of commercial book papers of all grades, are being prepared for publication.

The information developed in these studies of current papers and fibrous raw materials has assisted in commercial developments of papers for specific permanent record uses, and has

<sup>1</sup> J. O. Burton and R. H. Rasch, "The Determination of the alpha cellulose content and copper number of paper," *Bureau of Standards journal of research* (April, 1931), Research paper no. 295.

<sup>2</sup> R. H. Rasch, "Quality of purified wood fibers as a paper-making material," *Bureau of Standards journal of research* (September, 1929), Research paper no. 107.

assisted publishers and other paper users in the choice of papers for such purposes. As an example, the Bureau co-operated with several newspaper publishers and paper manufacturers in the development and selection of newsprint paper for permanent editions of newspapers. Likewise, at the request of the Library of Congress, specifications for permanent photostat paper were developed. This paper was required for use in making permanent records of early American history from archives in Europe.

#### IMPERMANENCY OF RECORDS

This portion of the work, as previously mentioned, was undertaken to find the causes of deterioration of records in libraries, and remedial measures. The work has been carried on in co-operation with the National Research Council, and others particularly interested in this phase of the subject, and the fund allotted by the Carnegie Foundation of New York is being expended solely for this purpose. Following are the various accomplishments.

*Survey of literature.*—In order to plan the research program so as to avoid as far as possible duplication of work of others, it was necessary to make a study of the literature available. While the literature is very extensive, in general the information given is rather indefinite, and no very serious attempt has been made in the past to correlate observed deteriorative effects in libraries with the materials and processes used in making paper, as is being done in the Bureau studies. Abstracts of 198 of the more important articles have been made, and 126 additional articles are at present listed for abstracting. The abstracts are being incorporated in a bibliography for publication.

*Survey of library conditions.*—A survey of storage conditions in thirty-three public libraries and similar depositories located in various parts of the United States has been made. Eighteen of these, situated in the North Atlantic states and on the Pacific Coast, were visited for study of the conditions. Information on conditions in fifteen other libraries in various localities was obtained by correspondence. This survey indicated that as far as external influences are concerned, damage to stored publications and other records is caused by acid pollu-

tion of the atmosphere, high temperatures, variations in atmospheric humidity, dust, and light. The deteriorative action of light was found to be generally recognized and guarded against. The same was true to a lesser extent for dust and temperature. As a general rule, however, little precaution is taken to minimize the effect of air-pollution and humidity variation, although this is entirely practicable.

As a part of this survey, duplicate specimens of books were collected for inspection and testing to find the relative effects of storage under varying conditions. These samples were inspected as to color and strength, and the fibers were examined microscopically in respect to kind and condition. Besides adding to the general fund of information respecting the relative durability of different types of fibers, the results of the tests gave evidence that evenness of atmospheric humidity is helpful as a preservative agent. An important aspect of humidity change is that as stored publications dry out the acid produced by sulphur dioxide from the air is further concentrated, because the absorbed sulphur dioxide is oxidized to sulphuric acid, which is non-volatile. The results of this study of library storage conditions will be published later in detail.

Descriptions of laboratory researches on effects of library storage conditions follow.

*Effect of light.*—Relative to the yellowing of paper with age, a study of rosin used for sizing paper and rosin compounds present in paper was completed. Rosins were found to be sensitive to light. Bleached rosin is claimed by a patentee to be immune to light action, but the opposite was found. Resinates of sodium, aluminum, ferrous and ferric iron were studied, and, of these, ferrous resinate alone darkened on exposure to light. Apparently the yellowing of paper is closely related to the light sensitivity of ferrous resinate. A report of these studies is contained in a Bureau research paper.<sup>1</sup>

*Drying-out effect.*—As many obviously deteriorated papers were found to be stored under warm, dry conditions, study is being made to find whether the observed deterioration is due

<sup>1</sup> A. E. Kimberly and J. F. G. Hicks, "The Light sensitivity of rosin-sizing materials," *Bureau of Standards journal of research* (May, 1931), Research paper no. 307.

to the excessive drying-out of the paper or more particularly to acceleration of chemical reactions in the papers by the elevated temperatures. Twenty-two samples of commercial papers are being subjected to heating to constant weight and to desiccation to constant weight, and the extent of weakening measured by comparison of the initial strength with the strength after such treatments. The data so far obtained have not permitted definite conclusions.

*Effect of sulphur dioxide.*—Acidity is indicated as one of the most potent agents in the deterioration of paper. For this reason, study of the effect of air polluted with sulphur dioxide was chosen for the initial laboratory work on atmospheric deteriorative agents, as this appears to be the main external source of acidity. A special cabinet was designed and constructed for this purpose, in which, by means of various accessories, papers are exposed to air polluted with a given amount of  $\text{SO}_2$ , under controlled temperature and humidity conditions. The papers are then subjected to exhaustive chemical and physical tests to find the degree of weakening and the nature of the deteriorative effect. The data so far obtained show that ten days' exposure of papers to air containing 5-10 parts of sulphur dioxide per million parts of air, at 65 per cent relative humidity and 86° Fahrenheit, resulted in an appreciable increase in the acidity of the papers, and the initiation of chemical and physical changes indicative of a breaking-down of the paper cellulose. Although this acid concentration is much greater than that found in libraries, the desirability of protection against this deteriorating agent is evident.

*Study of old publications.*—In addition to the tests of duplicate samples of old publications from libraries previously mentioned, a large number of other books, newspapers, and other forms of records of known age and history have been collected for testing. The inspection of these and the determination of the nature of the fibers present have yielded additional valuable information as to the relation of degree of purification of fibers to their permanence. As found in the studies of current papers, the resistance of these aged papers to deterioration

appears to have been dependent primarily on the degree of purification of the paper fibers irrespective of the nature of the fibrous raw materials. These tests also gave quite definite information as to the chronological order of the usage of the various types of paper fibers, which is helpful in determining the probable permanency of publications relative to their time of issue. The other important information secured by these tests is that fibers produced by any of the usual chemical pulping processes from any raw material are more permanent than is commonly believed. A separate report of these tests will be prepared for publication.

*Preservation of impermanent papers.*—Some study has been made of the preservation of papers known to be impermanent, particularly in reference to newspapers. Japanese tissue paper pasted on the papers with starch is in use in several libraries for this purpose. The use of other transparent materials such as cellophane and cellulose lacquers was studied, but the Japanese tissue appears to be preferable. No doubt such treatment can at the best only prolong the life of the papers to a limited extent. Photostating on permanent paper appears to be the most practicable way of preserving records contained on perishable paper.

#### STANDARDIZATION OF RECORD PAPERS

One of the main objectives of these studies is the establishment of permanence standards for record papers. The information obtained has led to a suggested permanency classification which was discussed in papers presented by a member of the Bureau staff at a meeting of the American Society of Mechanical Engineers (Detroit, June 9, 1930), a meeting of the National Association of Purchasing Agents (Chicago, June 16, 1930), and a meeting of the Pacific Coast Section, Technical Association of the Pulp and Paper Industry (Portland, Oregon, October 11, 1930). The papers presented have been published.<sup>1</sup>

In the suggested classification, papers are classified in four

<sup>1</sup> B. W. Scribner, "Permanence standards for printing and writing papers," *Transactions A.S.M.E.*, May-August, 1930; "The Deterioration of paper," *Studies by the U.S. Bureau of standards, Pacific Pulp and Paper Industry* (October, 1930).

main groups according to their degree of cellulosic and non-cellulosic purity, with consideration of the usage requirements. In all except the lowest grade, which comprises papers suitable for temporary use only, limits are fixed for alpha cellulose, copper number, rosin, and acidity. In addition, stability limits as indicated by a heat test are given for the permanent papers. The studies made have indicated that these properties are of prime importance respecting resistance of papers to chemical deterioration. There is sufficient information on hand to serve as a basis for definite strength requirements for any given usage of papers.

#### PRESENT STATUS AND PLANS FOR IMMEDIATE FUTURE

Following is a résumé of the information so far developed in this research, and an outline of immediate studies, that is, those that may be completed within a year or so, providing the present facilities are maintained.

In the study of permanence qualities of current record papers, 130 samples of printing and writing papers, and 40 samples of the fibrous raw materials used in their manufacture, have been tested. These samples thoroughly cover the entire range of current paper-making processes and materials used for such papers, being representative of the use of all grades of rag fibers; wood fibers prepared by the soda and sulphite processes, and by variations of these processes designed to effect a high degree of purification; the various other paper-making materials such as rosins, glues, and starches used for sizing, and clay used for filling; and the different modifications of the paper-making operations. These data were supplemented by the paper-making tests of highly purified wood fibers in the Bureau paper mill, in the course of which 50 experimental papers were made and tested. In all, over 4,200 tests were made in these studies. This information, together with pertinent data obtained by the testing of old publications, and the test methods developed for alpha cellulose, copper number, acidity, and stability, are considered sufficient for immediate permanence classification of papers. It should be kept in mind, of course, that



any classification of papers cannot be regarded as a fixed thing but is subject to change with change in commercial practice and with increased technical knowledge.

The further work planned in this direction is extension of the paper-making tests in the Bureau paper mill to the other commonly used paper-making fibers, and additional studies of various ways of making accelerated aging tests.

Following is the status of the studies relating particularly to library storage conditions. An abstract-bibliography of the literature relating to this subject is nearing completion. With the survey of storage conditions in thirty-three public libraries and similar depositories in the United States completed, it is believed sufficient information as to the nature of the existing conditions has been obtained. The fiber analysis and inspection for color and strength of 269 books, 545 periodicals, and 217 newspapers, stored in libraries for varying periods during the past one hundred years, have given information as to the effect of storage conditions on the various kinds of paper fibers and on the relation of light, dust, temperature, humidity, and air-pollution to deterioration. The chemical tests of these publications in progress should add considerable knowledge as to the nature of the deteriorative effects.

Progress has been made in the laboratory studies planned to measure further the effect of indicated deteriorative agents and to find the nature of the effects, so that protective measures might be developed. The sensitivity of rosin-sizing to light has been further proved, data have been obtained as to effect of dryness and of high temperatures, and sufficient information as to effect of air polluted with sulphur dioxide has been obtained to show that this is a very potent deteriorating agent. Some information has been developed in respect to means of preserving records made on impermanent papers. Over 4,000 tests have been made on the approximately 100 samples of materials included in these studies.

The following studies of library deteriorative effects are planned for the immediate future. Extension of study of effect of light on sizing materials using papers made in the Bureau

mill containing known amounts of rosin-sizing materials and other sizing materials such as waxes: the latter may be more stable than rosin. Further study of effect of rise in temperature and of desiccation to include heating in oxygen and in nitrogen to find whether or not the deterioration of papers in warm, dry places is due mainly to oxidation: affirmative results would suggest the advisability of incorporating anti-oxidants in papers. Continuation of study of effect of sulphur dioxide to include various concentrations of this gas, and effect of variations in temperature and humidity: these data should give sufficiently definite information on the rate and degree of the sulphur dioxide effect to show positively whether acid purification of library air is required.

B. W. SCRIBNER

WASHINGTON, D.C.

## THE COLLEGE-LIBRARY BOOK BUDGET

ONE of the problems which is an annual aggravation to the college librarian is the division of the book budget among the various academic departments. This division is ordinarily made upon one of the two following bases: either upon the basis of the number of students enrolled in the courses, or upon the basis of the average expenditure of the department for books during the past few years. Both of these methods are open to logical objections.

The amount of money to be expended for books in a given academic department is a function of the number of students enrolled chiefly with respect to duplicates required for collateral reading. It appears obvious, for example, that the number of students enrolled in courses in economics in College A can have no possible effect upon the number of authoritative and necessary books published during a year in the subject. If the number of books which the library will ideally purchase will be the same as the number of desirable books published, it is easy to see that the size of the student enrolment is not a factor in the budget for these purchases.

The system of dividing the budget on a basis of previous purchase has been found to lead to one of two undesirable consequences. In the first case, a given department, which may, for various reasons (among the most common is the uninterested attitude of its faculty), have spent comparatively little for several years, finds its book budget reduced until it will not serve to acquire the necessary books from year to year. In other words, the system leads in many cases to making departments which are already weak in book resources weaker still. In the second case, the department, knowing that its book budget will be cut if it is not used, spends money near the end of the fiscal year for books which are of doubtful merit as items in a college-library collection.

It appears reasonable to say that if two factors concerning the books in a college library were known, the task of arriving at a logical basis for the division of the book budget would be much simplified, at least so far as it concerns money for new titles to be added from year to year. These two factors are the average cost per title of books in the various academic departments, and the average number of such books published from year to year.

The publication by the Carnegie Corporation of *A List of books for college libraries*, under the editorship of Charles B. Shaw of Swarthmore College, makes it possible to supply the first of these items with a high degree of reliability, and to make at least a start at estimating the second.

The list is divided among twenty-four departments. In all but two of these departments (German and Romance languages) a sufficient number of titles are priced to yield reliable averages for the class. William Baehr, a Fellow of the Graduate Library School of the University of Chicago, has supplied the averages upon which this article is based.

Table I gives, in the second column, the number of priced items in each department; and, in the third column, the average cost per item. Statistical material of this sort is of little value unless its reliability can be tested. In other words, what right have we to assume that the average cost per title of \$4.40 obtained from the 212 books in zoölogy represents the average which would have been obtained if all the books of the same sort had been considered? The fourth column in Table I above gives the probable errors of the various averages. This figure represents the maximum amounts which the "true" average (i.e., the average which would be obtained by considering every existing book in each class) will vary from the average obtained by the sample used. In other words, the true average cost of books in zoölogy will be  $\$4.40 \pm \$0.1604$ , or, between approximately \$4.56 and \$4.24. Conservative practice insists that if data are to be considered "reliable" the coefficient used must equal at least four times its probable error. It is easy to see from the table that the averages of the book costs in every case

exceed considerably four times their probable errors. The material may be said, therefore, to be highly reliable.

A second assumption concerning these data must be borne in mind. It is true that the average cost per title obtained is reliable for all books in the various classes. We are assuming,

TABLE I

Subject	Number of Titles	Average Cost per Title	Probable Error
Astronomy.....	84	\$4.00	0.2378
Botany.....	114	5.09	.1849
Chemistry.....	236	6.29	.1428
Classics.....	802	3.22	.1035
Economics.....	701	3.33	.0849
Education.....	591	2.16	.1283
English.....	2,744	2.78	.1207
Fine arts.....	449	5.37	.3139
General.....	1,101	3.71	.1486
Geography.....	185	4.54	.2089
Geology.....	79	4.56	.1574
History.....	2,073	4.15	.2022
Mathematics.....	257	3.91	.3480
Music.....	280	3.25	.0935
Philosophy.....	447	3.29	.1582
Physical education.....	168	2.61	.1053
Physics.....	148	4.12	.1160
Political science.....	578	3.44	.1245
Psychology.....	295	3.22	.0971
Religion.....	621	3.14	.1154
Sociology.....	538	3.23	.1802
Zoology.....	212	4.40	0.1604

however, that the list of books from which the data were obtained represents accurately the books actually purchased by college libraries in these various classes. In other words, these data are reliable for book costs in college libraries only so far as the libraries do buy the kinds of books listed. It must be observed that individual titles are not in question here. It is the character of the books, with reference to their costs, which is important. Thus far in a somewhat close study of many aspects of the list, no evidence has been found which would invalidate the assumption that the books represented on it are of a kind

with the books found in college libraries, in respect to cost of purchase.

We have, then, the first of the necessary factors for determining the logical division of the college book budget among the various academic departments, i.e., the average cost per title of books in the various classes. There remains for determination the second factor: How many books from each class will the college library be obliged to purchase each year?

It appears impossible to answer this question exactly with the data available. But it is possible to answer it in terms of relationship between the requirements of the various departments.

A tabulation was made of the titles on the list in the various departments of knowledge, distributing the titles according to the date of publication. In other words, the number of titles on the list published during various years was determined for each subject. The curves of these distributions during the past twenty years indicate a steady rise in the number of titles appearing from year to year. In education, for example, the number of titles included in the list rises from 7 in 1906 to 149 in 1926, and, with the exception of the war years, this rise is regular. It seems reasonable to suppose that approximately the same number of books in education was published from year to year. The smaller numbers found in the earlier years represent, therefore, the increment of material not replaced by later publications, and not the number of desirable books published in the years in question. In other words, if such a list had been made in 1928 instead of 1930, the peak which now occurs in 1926 would have moved back to 1924. As a matter of fact, such a list was compiled in 1928,<sup>1</sup> and the corresponding peak in this list is found to lie between 1923 and 1924, in the subject of education.

If these facts be true, the largest number of books appearing in any one year on the list may be taken as an index of the number of books which the college library will buy during that year, or any other year. It should be observed that not the actual numbers of these books are used in the calculations, but the

<sup>1</sup> Eugene Hilton, *Junior College book list* (Berkeley, 1930).

relations which they bear to one another. In other words, we are not trying to say that because the list has 149 titles in economics during the year 1926, which is the peak, that every college library must buy 149 books in economics each year. But, since the list has 149 titles in economics during one interval, and

TABLE II

Subject	Number of Titles in Peak Interval	Number of Titles on Base of 100 for English
Astronomy.....	16	6
Botany.....	55	20
Chemistry.....	20	7
Classics.....	70	25
Economics.....	169	61
Education.....	149	54
English.....	275	100
Fine arts.....	58	21
General.....	109	40
Geography.....	28	10
Geology.....	15	5
History.....	213	77
Mathematics.....	36	13
Music.....	43	16
Philosophy.....	34	12
Physical education.....	49	18
Physics.....	27	10
Political science.....	109	40
Psychology.....	55	20
Religion.....	55	20
Sociology.....	108	40
Zoölogy.....	46	17

275 titles in English during the corresponding interval, it seems reasonable to suppose that the college library will need to buy, on the average, about twice as many titles in English as in economics during a given period (exactly  $275/149$ ).

As a matter of fact, it was found more convenient mathematically to make the distributions in two-year periods instead of one-year periods. This device, however, can have no effect upon the conclusions.

In Table II the number of books in the peak interval in each subject is given in the second column. The third column con-



tains the same figures reduced to a base of 100 for English (i.e., for every 100 books purchased in English, 6, on the average, will be purchased for astronomy, 20 for botany, etc.). English was chosen as the base because it contains the largest number of titles.

We have, then, the average cost per title of books in the various departments, and the relative frequency of their publication, or at least what this relative frequency of publication is according to a standard list of books for college libraries. We assume now that college libraries should purchase books according to the rate of publication of desirable books, i.e., if twice as many desirable books appear in English as in political science, that college libraries should purchase twice as many in English as in political science. The basis for this assumption, so far as it affects the conclusions, is that college libraries should purchase the desirable books appearing; and that the books on the list are those which are desirable. Available data which will be presented at another time show that they do purchase in these ratios, so far as strictly academic books are concerned. Their actual ratios of purchase differ somewhat because of the inclusion in the list of a large number of titles for "cultural reading." It is perhaps an open question whether college libraries should spend large amounts on books of this type. It is assumed in this article, following the editors of the list, that they should.

It remains, then, to put these two factors together, and to arrive at the relative amounts of the book budget which should be devoted to the various academic departments.

Table III gives in column 2 the number of titles to be added in each subject on a base of 100 for English; in column 3, the average cost per title; in column 4, the combined cost of the titles in each department; and in the last column, the per cent which this amount is of the total cost of all the titles. This last amount is, then, the per cent of the book budget which should be devoted, on the average, to each department.

This table should be read as follows: In astronomy, there will be purchased, for every 100 titles in English, 6 titles, costing on the average \$4.00 each, and having a total cost of \$24. This

total cost represents 1.1 per cent of the cost of the entire number of books listed; and therefore it may be said that astronomy will require, on the average, 1.1 per cent of the book budget each year.

This final statement (i.e., that astronomy will require on the average 1.1 per cent of the book budget each year) will be valid

TABLE III

Subject	Number of Titles	Average Cost per Title	Total Cost	Per Cent of Entire Cost of All Titles
Astronomy.....	6	\$4.00	\$ 24.00	1.1
Botany.....	20	5.09	101.80	4.6
Chemistry.....	7	6.29	44.03	2.0
Classics.....	25	3.22	80.50	3.7
Economics.....	61	3.33	203.13	9.2
Education.....	54	2.16	116.64	5.2
English.....	100	2.78	278.00	12.6
Fine arts.....	21	5.37	112.77	5.1
General.....	40	3.71	148.40	6.8
Geography.....	10	4.54	45.40	2.1
Geology.....	5	4.56	22.80	1.0
History.....	77	4.15	319.55	14.5
Mathematics.....	13	3.91	50.83	2.3
Music.....	16	3.25	52.00	2.4
Philosophy.....	12	3.29	39.48	1.8
Physical education.....	18	2.61	46.98	2.2
Physics.....	10	4.12	41.20	1.9
Political science.....	40	3.44	137.60	6.3
Psychology.....	20	3.22	64.40	3.0
Religion.....	20	3.14	62.80	2.9
Sociology.....	40	3.23	129.20	5.9
Zoology.....	17	4.40	74.80	3.4
Total.....	632	.....	\$2,196.31	100.0

only if the book budget is large enough to care for the needs of the library. This calculation has been made upon a base of 100 books for English. It should be obvious that if the amount of money available is not sufficient to purchase the books required for English, and to care for the other departments in the ratios indicated, that a division according to this tabulation will result in insufficiency in every department. The amount of this lack will be, however, relatively the same for each department, which

is perhaps more desirable than starving certain departments entirely for the benefit of others.

It should be noticed also that these figures are based upon averages. It has been said that the average condition is that one which is never found. In other words, these figures cannot be expected to represent accuracy for any one given year. But if the college book budget is divided thus year after year, and the unspent amounts in each department allowed to remain, and the overdrafts charged against them, it should be true that in the long run it will result in a distribution of funds in keeping with the needs of the departments.

No attempt has been made in this article to determine the ideal size of the book budget for a college. Other factors than publication rates and book costs are operative in this determination. Among these factors are the costs of periodical subscriptions; the size of the student body, and the distribution of the enrolment over the various departments of instruction; and others of importance. It may be worth while, however, to posit a book budget—for example, one of \$3,000 per year—and to see the results. Table IV gives, in the second column, the amount of each department's allotment from a total of \$3,000; in the third column are given the number of books which could be added to the library for the amount stated, at the average costs per title given in Table I.

In order that librarians may be able more easily to form a judgment concerning the practical workings of this division, the subjects are ranked in Table V according to the percentage of the whole which they receive.

It will be noticed that the top third contains English and general reference, together with the social sciences, in which subjects the library is said to take the place of the laboratory. These together take up 60.5 per cent of the entire budget. The middle third contains the biological sciences, in which some library reading is done, and in which, moreover, the books are comparatively expensive. The presence of fine arts in this group is due to the comparatively greater cost of individual items in this class. Classics, religion, and music are found here because a

large number of books is included in the list in these subjects for their cultural value. College librarians having in mind primarily the academic function of their libraries will doubtless place them farther down in the list. This section uses 25.1 per cent of the entire budget. The bottom third contains the natural sciences, in which little library work is required in undergradu-

TABLE IV

Subject	Amount Allotted	Number of Books Added
Astronomy.....	\$ 33.00	8
Botany.....	138.00	27
Chemistry.....	60.00	10
Classics.....	111.00	34
Economics.....	276.00	83
Education.....	156.00	72
English.....	378.00	136
Fine arts.....	153.00	28
General.....	204.00	55
Geography.....	63.00	14
Geology.....	30.00	7
History.....	435.00	105
Mathematics.....	69.00	18
Music.....	72.00	22
Philosophy.....	54.00	16
Physical education.....	66.00	25
Physics.....	57.00	14
Political science.....	189.00	55
Psychology.....	90.00	28
Religion.....	87.00	28
Sociology.....	177.00	55
Zoölogy.....	102.00	23
Total.....	\$3,000.00	863

ate courses. A similar budget for a university would doubtless place these subjects higher on the list. The presence of philosophy in this section is due to the small number of books appearing annually in that class.

It will be interesting to compare the results obtained by using as a base the publication rates of the books with those to be obtained on a basis of libraries' actual purchases. The book list in question has been checked by some two hundred libraries of liberal-arts colleges, and the average number of books in each

department of the list owned by these colleges is known. The average number of books owned may be taken as an index of the yearly purchases by the libraries in the various departments. This assumption is open to one objection at least. The present book holdings, upon which the check is based, represent purchases over a great number of years. It is altogether possible that changes in emphasis in the curriculums of colleges during the past few years make these averages based upon the purchases over a long period incorrect as a representation of

TABLE V

Subject	Per Cent of Entire Budget Received	Subject	Per Cent of Entire Budget Received
History.....	14.5	Psychology.....	3.0
English.....	12.6	Religion.....	2.9
Economics.....	9.2	Music.....	2.4
General.....	6.8	Mathematics.....	2.3
Political science.....	6.3	Physical education.....	2.2
Sociology.....	5.9	Geography.....	2.1
Education.....	5.2	Chemistry.....	2.0
Fine arts.....	5.1	Physics.....	1.9
Botany.....	4.6	Philosophy.....	1.8
Classics.....	3.7	Astronomy.....	1.1
Zoölogy.....	3.4	Geology.....	1.0

present trends in book-buying. But the results will nevertheless be interesting, since they will show the budget to be obtained by basing the needs of the various departments upon their actual purchases during preceding years. It has already been pointed out above (p. 421) that this is one method actually employed by librarians for the division of the book budget.

Table VI gives, in the second column, the average number of books held by the libraries in the various departments; in the third column, these figures are reduced to a base of 100 for English (i.e., the number of books held in the other departments for each 100 books held in English). The fourth column gives the total cost of the number of books in the third column; and the fifth column lists the percentages which each department's purchases are of the total cost.

This table should be read as follows: The colleges own, on the average, 18.4 of the books listed under astronomy, which is 3.6 titles per 100 for English; these books will cost \$14.40 (average cost per title in astronomy is \$4.00), and this amount is 0.9 per cent of the total cost given at the bottom of column 4. The

TABLE VI

Subject	Average Number of Books Held by Libraries	Number Held per 100 in English	Cost of Books in Col. 3	Per Cent of Entire Cost of All Titles
Astronomy.....	18.4	3.6	\$ 14.40	0.9
Botany.....	25.2	5.0	25.45	1.6
Chemistry.....	36.5	7.3	45.92	2.8
Classics.....	127.4	25.5	82.11	4.9
Economics.....	145.4	29.1	96.90	5.8
Education.....	162.7	32.5	70.20	4.2
English.....	499.4	100.0	278.00	16.6
Fine arts.....	65.8	13.1	70.35	4.2
General.....	159.4	31.9	118.35	7.1
Geography.....	25.8	5.1	23.15	1.4
Geology.....	14.9	2.9	13.72	0.9
History.....	422.3	84.5	350.68	20.9
Mathematics.....	49.2	9.8	38.32	1.3
Music.....	37.5	7.5	24.38	1.5
Philosophy.....	88.6	17.7	58.23	3.5
Physical education.....	19.5	3.9	10.18	0.6
Physics.....	30.1	6.0	24.72	1.5
Political science.....	119.0	23.8	81.87	4.9
Psychology.....	93.8	18.7	60.21	3.6
Religion.....	101.3	20.2	63.43	3.8
Sociology.....	138.2	27.6	89.15	5.4
Zoology.....	48.2	9.6	42.24	2.6
Total.....			\$1,681.96	100.0

per cents listed in the fourth column give the proper division of the book budget according to the number of books held by college libraries in the various departments.

A comparison of the division by this method with that made according to the publication rates is given below. In this table the subjects are ranked according to the division on the base of publication rates. The per cent of the budget to be allotted is given in the second column. The third column gives the rank.

Column 4 gives the per cent of the budget to be allotted on a basis of the actual holdings of the libraries, and column 5 gives the rank by this division.

TABLE VII

Subject	Per Cent of Budget Allotted on Basis of Publication Rates	Rank According to This Allotment	Per Cent of Budget Allotted on Basis of Actual Holdings	Rank According to This Allotment
History.....	14.5	1	20.9	1
English.....	12.6	2	16.6	2
Economics.....	9.2	3	5.8	4
General.....	6.8	4	7.1	3
Political science.....	6.3	5	4.9	6.5
Sociology.....	5.9	6	5.4	5
Education.....	5.2	7	4.2	8.5
Fine arts.....	5.1	8	4.2	8.5
Botany.....	4.6	9	1.6	15
Classics.....	3.7	10	4.9	6.5
Zoology.....	3.4	11	2.6	14
Psychology.....	3.0	12	3.6	11
Religion.....	2.9	13	3.8	10
Music.....	2.4	14	1.5	16.5
Mathematics.....	2.3	15	1.3	19
Physical education.....	2.2	16	0.6	22
Geography.....	2.1	17	1.4	18
Chemistry.....	2.0	18	2.8	13
Physics.....	1.9	19	1.5	16.5
Philosophy.....	1.8	20	3.5	12
Astronomy.....	1.1	21	0.9	20.5
Geology.....	1.0	22	0.9	20.5

This table should be read as follows: According to the allotment by publication rates, history receives 14.5 per cent of the total budget, and ranks first. According to the allotment by actual holdings, history receives 20.9 per cent of the total budget, and ranks first.

An examination of this table shows that the rankings obtained by the two methods do not differ greatly ( $R=.869$ ).<sup>1</sup>

<sup>1</sup>  $R$  is computed according to the formula

$$R = 1 - \frac{\sum D^2}{N^3 - N}$$

where  $D$  = the difference between the ranks of individual subjects, and  $N$  = the number of subjects.



This would indicate that not much difference in rank is caused by the use of one method rather than the other. Actual correlation of one set of percentages against the other gives  $r = .918 \pm .023$ , which shows that the correspondence is close, in actual percentages.

Certain differences, are, however, significant. History and English stand well at the top in both rankings; but in the ranking according to the actual holdings of the colleges, the percentages of the budget allotted to these two subjects are considerably greater than those allotted according to the publication rates. In the latter allotment, the two together take 27.1 per cent of the entire budget; in the former, 37.5 per cent.

It will be noticed, also, that the two biological sciences, botany and zoölogy, get a much smaller share of the funds according to the actual holdings than according to the rates of publication, and that chemistry gets a little more. The other physical sciences tend to rank higher according to the actual holdings, although the percentages allotted to them are generally a little lower.

On the whole, it may be said that the allotment according to rate of publication gives a much more regularly graded ranking than that according to actual holdings. This would indicate that certain departments in the colleges do not purchase so large a percentage of the books appearing in their fields from year to year as do others.

Classics is probably an example of a field in which the actual holdings are a poor index of present trends in buying. It is doubtful if colleges purchase at the present time as many books in this subject as their holdings would indicate.

Table VIII gives the division of a hypothetical book budget of \$3,000 according to the percentages arrived at by considering the holdings of the colleges. The second column gives the per cent allotted to each subject; the third column, the amount of money to be assigned from \$3,000; and the fourth column, the number of titles it would purchase. The fifth column gives the amount allotted from the same budget on a basis of publication rates, for purposes of comparison.

This table should be read as follows: Astronomy receives, ac-

cording to the allotment by actual holdings, 0.9 per cent of the book budget of \$3,000, or \$27. This amount will purchase about 7 titles (average cost per title for astronomy equals \$4.00). The amount allotted to astronomy, according to the rates of publication, is \$33. (The number of titles to be purchased by the

TABLE VIII

Subject	Per Cent Allotted According to Present Holdings	Amount Allotted from \$3,000	Number of Books To Be Purchased for This Amount	Amount Allotted from \$3,000 According to Rate of Publication
Astronomy.....	0.9	\$ 27.00	7	\$ 33.00
Botany.....	1.6	48.00	9	138.00
Chemistry.....	2.8	84.00	13	60.00
Classics.....	4.9	147.00	46	111.00
Economics.....	5.8	174.00	52	276.00
Education.....	4.2	126.00	58	156.00
English.....	16.6	498.00	179	378.00
Fine arts.....	4.2	126.00	23	153.00
General.....	7.1	213.00	57	204.00
Geography.....	1.4	42.00	9	63.00
Geology.....	0.9	27.00	6	30.00
History.....	20.9	627.00	151	435.00
Mathematics.....	1.3	39.00	10	69.00
Music.....	1.5	45.00	14	72.00
Philosophy.....	3.5	105.00	32	54.00
Physical education.	0.6	18.00	7	66.00
Physics.....	1.5	45.00	11	57.00
Physical science...	4.9	147.00	43	189.00
Psychology.....	3.6	108.00	34	90.00
Religion.....	3.8	114.00	36	87.00
Sociology.....	5.4	162.00	50	177.00
Zoology.....	2.6	78.00	18	102.00
Total.....	100.0	\$3,000.00	865	\$3,000.00

allotment, according to rates of publication, is given in Table IV, p. 429.)

It will be noted that approximately the same number of titles is added to the library by the expenditure of \$3,000, no matter which system of allotment is used. According to the rates of publication, 863 titles would be added; according to the actual holdings of the libraries, 865 titles.

At least two major assumptions upon which this work is

based need to be studied and evaluated. They may be put in the form of questions.

1. Do the average costs obtained from the list correspond with the average costs of books actually purchased by college libraries? As has been stated above, no evidence has been found which would prove false an assumption that they do.

2. Do either the rates of publication or the actual holdings of the college libraries from the list reflect present buying tendencies accurately? Evidence from other studies under way would indicate that the rates of publication are a more accurate index of library purchases than are present holdings. The exact reliability of this index is yet to be determined.

Another point should be noticed. No account has been taken of trade discounts. These discounts would probably not affect the relative rankings of the departments; they would certainly affect, to some degree, the number of titles to be purchased from a given budget.

This article is intended not as a final word on any of the questions of which it treats. It is intended rather as an introduction and a sample of the sort of work which may be done upon the problems of the college library—and upon all library problems in general—by the use of methods which have been tested in other disciplines; and by the utilization of available data which can be proved reliable. It would appear that the proper procedure for the library profession at this time is not to seek in every case practical and immediate application of knowledge to everyday problems, so much as to investigate hypotheses, and to test the assumptions upon which the profession works.

WILLIAM M. RANDALL

GRADUATE LIBRARY SCHOOL  
UNIVERSITY OF CHICAGO

## CLASSIFICATION AND CATALOGUING IN THE SCANDINAVIAN COUNTRIES<sup>1</sup>

ANYONE who has recently visited Scandinavian libraries has undoubtedly been impressed by the order and efficiency that prevails and, compared to many other European libraries, the ease with which the desired material can be located and placed at the reader's disposal. Perhaps nothing striking has been accomplished in the way of new systems and new methods; but Scandinavian librarians have been eminently successful in adapting foreign systems and methods to national needs. Despite the convenience which universal systems and uniform methods afford, it is, nevertheless, a fact that in each country the libraries tend to look upon literature and books in general from their own point of view; and local problems must be dealt with in an individual manner. The present methods are the result of long practice, local needs, and various foreign influences.

The early history of libraries and library methods in the Scandinavian countries differs little from that of other countries in Northern and Central Europe. Libraries came into being with the introduction of Christianity; and the early libraries were connected with churches, cathedrals, and monasteries, notably Roskilde, Lund, Sorö, Nästved, Öm, Aarhus, Ribe, Slesvig, Trondheim, Bergen, and Uppsala. A number of old catalogues are extant, among these a list of books given to Lund Cathedral by Archbishop Andreas Suneson (thirteenth century), a catalogue of the books in the library of Archbishop Jens Grand (fourteenth century), a catalogue of the books in the library of the monastery of Öm (1554), and others.<sup>2</sup> As we

<sup>1</sup> An elaboration of a report prepared under the direction of Professor J. C. M. Hanson and presented in Seminar Course 360, Graduate Library School, University of Chicago.

<sup>2</sup> Svend Dahl, *Haandbog i Bibliotekskundskab* (3. Udg.; København, 1927), II, Part I, 41.

approach the sixteenth century, the catalogues indicate greater variety of books and, consequently, more care in the arrangement. Some of the early catalogues merely list the books without any classification; in others the arrangement is very simple, often merely a division into Latin and vernacular works; some reveal an attempt at systematic classification. Thus, in the catalogue of Arne Sigurdsson, bishop of Bergen, who died 1314, the thirty-six manuscripts are arranged as follows: (i) "Theology" (13 works), (ii) "Grammars" (15 works), and (iii) *Norröno bökr*, that is, "Norse books" (8 works). The eighty-seven manuscripts in the cathedral library of Trondheim, in the catalogue of 1558, have the following classification: (i) "Sacred scripture," (ii) "Law," and (iii) "History."<sup>1</sup> Often the books were arranged simply according to the four faculties theology, philosophy, law, and medicine.

The Reformation proved disastrous to many church libraries. Books were wantonly destroyed; and, especially in Norway and Sweden where printing had not yet become firmly established, the losses were keenly felt. On the other hand, during the religious wars the Swedish kings enriched their libraries by carrying off notable treasures of books and manuscripts from German libraries.<sup>2</sup> The wars between Denmark and Sweden also proved destructive to libraries, and many book collections were transferred from Denmark to Sweden. Books on the whole seem to have been regarded as legitimate spoils of war by book-loving and warlike kings and generals alike; and officers and common soldiers did their share of the pilfering.

Little is known about Danish and Swedish book collections of the sixteenth century; yet, considering the time, some of these were by no means insignificant. Count Henrik Rantzau had a library of 6,300 volumes, largely in the humanities, at his

<sup>1</sup> *Ibid.*, p. 157.

<sup>2</sup> Cf. O. Walde, *Storhetstidens litterära krigsbyten* (2 vols., Uppsala and Stockholm, 1916, 1920).

Queen Christina, after her abdication of the Swedish throne and her conversion to Catholicism, took up her residence in Rome, where she died. Her library contained many valuable books and manuscripts previously taken from German libraries by the Swedes. These now became part of the so-called *Primera Raccolta* of the Vatican Library.

castle Breitenburg.<sup>1</sup> Tyge Brahe is supposed to have had an excellent scientific library at his retreat on the island Hveen; and Anders Sörensen Vedel, the scholar and historian, had a valuable private collection and boasted that it had not its equal in the three northern countries.

During the seventeenth and eighteenth centuries the private collections increased in size and number; and many noble families made book-collecting a hobby. French and Italian books predominated; and the national literature did not assume importance in any of the Scandinavian countries until the eighteenth century when Holberg established the Danish-Norwegian drama and Dalin and Bellman ushered in a new era in Sweden. In literature this meant a break with the French tradition, for Holberg and Dalin were influenced by English writers, notably Swift and Addison. French taste, however, prevailed until the end of the century. It has been said of this period that, in Denmark, a gentleman spoke French to his wife, German to his servant, and Danish to his dog. In Norway the rich vernacular literature was preserved in oral tradition in the homes of peasants. Two titled ladies in Denmark, Anne Gjõe and Karen Brahe, took an interest in the national literature and gathered large collections in the vernacular tongue. Most of the large private collections, however, were composed of foreign books. Stephanus, professor in the Academy of Sorø, collected a valuable library. The library of Jörgen Seefeldt contained 26,000 volumes. Among the important private libraries in Denmark in the eighteenth century we may mention those of Otto Thott, Peter Frederik Suhm, Arne Magnusson, Chr. Danne-skiold-Samsøe, and J. L. Holstein-Ledreborg; in Norway those of Carl Deichman, Bernt Anker, and Jens Anker; in Sweden those of Magnus Gabriel de la Gardie, Edmund Gripenhielm, Carl Gustaf Tessin, Archbishop Erik Benzelius, and Bishop Olof Celsius. Many of the collectors cultivated specialties. Bolle Willum Luxdorph specialized in books with fine bindings; the Swedish philologist, Johan Gabriel Sparfwenfeldt, collected

<sup>1</sup> The library was partly destroyed and the books scattered when Wallenstein's troops captured the castle in 1627.

Oriental literature; Gustaf Carlsson, literature about Sweden in foreign languages; and Erik Gyllengrip, rare Swedish imprints. Many of these collections became in time the property of the national libraries.

French influence exerted itself in many ways. The book-loving Queen Christina of Sweden called Naudé to Stockholm after the fall of Cardinal Mazarin, whom Naudé had served as librarian. Frederik Rostgaard, one of the important Danish librarians and bibliophiles of the period, was for a time connected with the Bibliothèque Nationale in Paris. He acquired a large private library, wrote a book on cataloguing, and formulated a classification scheme with the following classes:<sup>1</sup>

- Biblia et concordantiae
- Explanatores textus biblici, commentarii
- Patres, concilia, theologi ante reformationem
- Historia ecclesiastica et theologi
- Rituales et liturgici
- Juridici
- Politici et ethici
- Geographi et topographici
- Chronologia et historia universalis
- Historia antiqua
- Historici recentiores
- Antiquitates
- Historia gentilit. genealogica
- Historia literaria et bibliothecarum
- Vitarum scriptores
- Historia naturalis et medicina
- Philosophici
- Mathematici et bellici
- Grammatici et lexicographi

<sup>1</sup> *Projet d'une nouvelle pour dresser le catalogue d'une bibliothèque selon les matieres avec le plan par Frederic Rostgaard*. Seconde édition augmentée de quelques articles nécessaires & mise en meilleur ordre. A Paris M.DC.XCVIII.

In the *Projet* (1st ed.; Paris, 1697) Rostgaard speaks of reducing the sciences to 24 main classes, each class to be designated by a letter of the alphabet; but he does not specify the classes definitely. In the *Bibliotheca Rostgaardiana* (1726) the 22 main classes are listed as above. Petzholdt calls attention to the fact that if a class "Peregrinationes et itineraria" is inserted between "Historici recentiores" and "Antiquitates" and the class "Poetae" is divided into "Poetae veteres" and "Poetae recentiores," the 24 classes would be complete. Cf. Julius Petzholdt, *Bibliotheca Bibliographica* (Leipzig, 1866), p. 29.



Oratores et epistolographi

Poetae

Critici et litteratores

Rostgaard administered his library with great care; and he made one of the first catalogues in which the books were properly classified and rare books and incunabula minutely described. His library was sold in 1726; and in time a considerable number of the books and the valuable manuscript collection were acquired by the Royal Library of Copenhagen and the University Library.

The eighteenth century was the age of bibliophiles and fashionable book-collectors; and the history of the libraries of the century is to a large extent one of private collections. Meanwhile, the university libraries and the national collections increased in size and importance. At the beginning of the nineteenth century new intellectual currents swept over the Scandinavian countries, largely from Germany. The works of Francke, Ebert, Schrettinger, and others excited a renewed interest in library methods, which were proving quite inadequate for the proper handling of the growing collections; and, by indicating the problems involved and offering certain solutions, they opened a discussion of a number of vital questions. In 1829 appeared Christian Molbech's *Om offentlige Bibliotheker, Bibliothekarere, og det man har kaldet Bibliotheksvidenskab*.<sup>1</sup> From the title it would appear that what is called "library science" was then still in a formative period. I may also note that when Molbech speaks of public libraries he does not refer to "public" libraries in the present sense of the term, but chiefly to national and municipal libraries open to the public. Molbech was a practical librarian. When the book was written, he had

<sup>1</sup> First published in *Nordisk Tidsskrift for Historie, Litteratur og Konst*, second and third part (1829). The second edition (Köbenhavn, 1829) contains an Appendix with a criticism of the system of Schrettinger, whose *Versuch eines vollständigen Lehrbuches der Bibliothekswissenschaft* (München, 1829), Band II, had just appeared. Four years later the book was translated into German: *Über Bibliothekswissenschaft oder Einrichtung und Verwaltung öffentlicher Bibliotheken*, von Christian Molbech; übersetzt von H. Ratjen (Leipzig, 1833). Two appendixes were added, one on the parchment manuscripts in the Royal Library of Copenhagen, and one on the history of the Royal Library. Molbech was born in 1783; he became amanuensis in 1805, librarian in 1823, professor of literary history at the University of Copenhagen in 1829; and died in 1857.

been connected with the Royal Library of Copenhagen for twenty-four years; and he had little patience with mere theories. In the Preface he states that he is not concerned with the formulation of any system, nor does he intend to take up the whole field of library science. The book is a criticism of certain practical and historical problems, called to the author's attention through his library experience; and it deals specifically with library administration, cataloguing, and classification. Molbech stresses practical considerations. He is skeptical as to the use of encyclopedic systems for the classification of books in a library, and insists on a practical scheme which brings related works together and facilitates the rapid and certain location of the books. Such a scheme he refers to as a scientific classification. Books are works of the spirit and should not be subjected to a mere mechanical arrangement.<sup>1</sup> Classification, therefore, Molbech says, must proceed along logical lines determined by the contents of the books. The principles underlying such a scheme should not merely be an outgrowth of the knowledge of the day or of urgent necessity, but should also provide for the future and consider the possible growth and modification of the sciences, that is, the scheme should permit of expansion. Molbech advocates agreement between the entry of the book in the systematic catalogue and its classification on the shelf; and he favors an arrangement of the books without regard to the customary three sizes, though he grants that, in some libraries, arrangement by size is the most convenient. He deplores the use of many widely differing schemes within one country, which often make it difficult for a librarian from one library to find his way in another; and, though he does not think a universal scheme possible, he advocates a national system, or rather a general norm for schemes within a country, which individual libraries may adapt to suit their own needs.

In the field of cataloguing Molbech emphasizes the necessity of individual entry for each book, definite cataloguing rules,

<sup>1</sup> This argument has been advanced by numerous German librarians; and recently, at the twenty-fourth convention of German librarians at Göttingen (1928), Georg Schneider used it emphatically in his criticism of the Dewey decimal system. Cf. "Die Dezimalklassifikation," *Centralblatt für Bibliothekswesen*, XLV (1928), 514-23.

and exact and complete reproduction of title and imprint with additional notes necessary to describe the book and distinguish it from others. Many of Molbech's ideas have been accepted today. In Danish library science his book is a classic and it is still useful.

Molbech contended that the notation should be simple; and he proposed a system of his own, in which each book is given its own symbol. He used numbers in regular sequence; and if later accessions were to be inserted between two numbers he proposed the use of the letters of the alphabet placed after the number and, if the consecutive letters were exhausted, another number in addition. In a work of more than one volume the volume number was to be indicated by a numeral in parenthesis before the actual number. If a book, for instance, received the notation 2100, and the following book 2101, the insertions appeared as follows:<sup>1</sup>

2100	2101	(1)2102	(2)2102	2103	etc.
2100a	(1)2100b	(2)2100b	2100c	etc.	
2100a2	2100b2	2100c2	etc.		
2100a3	2100b3	etc.			

Molbech did not think it advisable to have one sequence of numbers for a whole library, and suggests that each department or each class (but not subdivisions) be given its independent enumeration. His method of notation is simple, but it has the disadvantage that, especially for later accessions, the notation becomes cumbersome, and in a large library, which annually adds thousands of volumes to its collection, the system is likely to break down.

The subject of notation has interested several Danish librarians. When the reorganization of the library of the University of Halle was begun under Otto Hartwig, the Danish philologist Karl Adolf Verner, was connected with the library; and in 1879 he submitted a system of notation to Hartwig.<sup>2</sup> Verner pro-

<sup>1</sup> *Om offentlige Biblioteker, etc.* (2. Aftryk; København, 1829), pp. 74-75. See also *Über Bibliothekswissenschaft*, p. 91.

<sup>2</sup> "Vorschlag zu einer veränderten Signiermethode für Bibliotheken," Hartwig, "Karl Adolf Verner als Bibliothekar," *Centralblatt für Bibliothekswesen*, XIV (1897), 256-63. Hartwig did not accept Verner's method.

poses a pure letter notation consisting of two syllables connected by a hyphen, i.e., *ben-kez*, *blat-strep*, etc. He bases his system on the German language and selects only combinations of letters familiar to the eye and the ear. Thus, by appealing to two senses, he thinks that the notation is easier to copy correctly and easier to remember; and the grouping of the letters into syllables serves the same purpose. The first syllable designates the class, the second the book; and he proposes that the classification scheme be reduced to seventeen classes, all notations within each class beginning with the same letter. Thus, the initial letter of the first syllable is the symbol for the whole class, and the following letters denote divisions and subdivisions. The size of the book was to be indicated by the first letter of the second syllable, lower case for octavos, capitals for quartos, and uncial letters for folios.

Each of the two syllables is composed of an initial sound (which may be a consonant or a consonant combination), a medial (a vowel), and a final sound (a single consonant). The accompanying table gives the letters and combinations.

Thus, for the initial sound of the first syllable the sixteen consonants *b, d, f, g, h, j, k, l, m, n, p, r, s, t, w, z*, are available, omitting *c* which in German has the sound of *k* or *z*, *v* which has the sound of *f*, and *q, x*, and *y*, apparently because they are not pure consonants. These sixteen consonants also form the class symbol, and the seventeenth class is designated by a syllable beginning with a vowel, i.e., omitting the initial consonant. Fifteen consonant combinations may also be used, which gives in all thirty-two divisions. For the medial letter one of the vowels *a, e, i, o, u* is employed; and the final sound is taken from one of the fourteen consonants *f, g, j, k, l, m, n, p, r, s, t, w, x, z*, omitting *b* and *d* which, in pronunciation at the end of a syllable, are distinguished with difficulty from *p* and *t*.

The second syllable is constructed on a wider basis. Forty-four consonants and consonant combinations are available for the initial sound; the vowels and consonants employed as medial and final letters are the same as in the first syllable. The first syllable makes 2,240, the second 3,080 combinations possible; together they form 6,899,200 symbols. The consonant com-

binations not used in the first syllable, Verner reserves for purposes of expansion, so also the vowels *ö* and *ü*; and if further expansion should become necessary, he suggests the use of the less familiar combinations, i.e., *bm*, *ft*, etc., or the addition of another letter or another syllable to the second part of the no-

FIRST SYLLABLE			SECOND SYLLABLE		
Initial	Medial	Final	Initial	Medial	Final
Spiritus lenis					
b			b bl br		
d	a	f	d dr dw	a	f
f fl fr		g	f fl fr		g
g gl gn gr		j	g gl gn gr		j
h		k	h		k
j	e	l	j	e	l
k kl kn		m	k kl kn		m
kr kw		n	kr kw		n
l		p	l		p
m	i	r	m	i	r
n		s	n		s
p		t	p pl pr		t
r			r	o	w
s sk skr sp	o	w	s sk skr sl		x
spr st str		x	sm sn sp	u	z
t	u	z	spr st str sw		
w			t tr tw		
z			w		
			z zw		

32	5	14	44	5	14
2,240			3,080		
6,899,200					

tation, i.e., *del-belf*, *den-kezli*, etc. This would increase the number of combinations possible to over thirty million.

Verner's system is well planned and relatively simple. The longest notation possible is one of five letters in each syllable, i.e., *skrat-strep*. His symbols are superior to an arbitrary combination of letters in that a syllable is familiar and more easily remembered; and the letters are carefully chosen, the sound appealing to the ear and the letters to the eye. The number of combinations possible would serve the largest library and the most detailed classification.

Going a step farther, Sigfús Blöndal, librarian at the Royal Library of Copenhagen, proposes a system of notations based on the dictionary of a language, in which all the words in the language are used as symbols.<sup>1</sup> Blöndal believes that English or Latin are best suited for the purpose; but a large library, which arranges its books according to the customary three sizes, might, for instance, use French for the folios, German for the quartos, and English or Latin for the octavos. The number of symbols may be increased by utilizing the entire alphabet within each class, prefacing the notation with an abbreviation of the name of the class. Thus a book on medicine if octavo may have the symbol *Med. scio*, if quarto *Med. sollen*, and if folio *Med. saigner*. The number may be increased further by a combination of words, as *scio-te*, *sollen-haben*, etc., which would give an unlimited number of symbols; and Blöndal believes that even the longest combinations would be easier to write, remember, and pronounce than the usual Dewey-Cutter notation. The pure letter notation is preferred by a number of Danish librarians, who object to a mixed notation, and who distrust a pure numerical notation, because a single numeral incorrectly copied will as a rule result in the wrong call number.

When Molbech published his book in 1829, he regretted the fact that, at the time, there were few men in Denmark who had the background and the experience necessary to appreciate his work. The times have changed. Since the beginning of the present century especially there has been a steady advance; and a work like Svend Dahl's *Haandbog i Bibliotekskundskab*,<sup>2</sup> a collection of articles written by experts and covering the whole field of library science, indicates the seriousness with which Danish librarians take their calling and the thoroughness of their work.

After this general survey we turn to the individual libraries, and those with which we are here concerned fall into two groups:

<sup>1</sup> *Katalogisering og Opstilling af Bøger* (København, 1912), pp. 29-30. See also Dahl, *Haandbog i Bibliotekskundskab*, II (København, 1930), Part II, 438.

<sup>2</sup> 1. Udg., København, 1912; 2. forøgede Udg., 1916; 3. forøgede Udg., Vol. I (1924); Vol. II, Part I (1927); Part II (1930).

first, the large university and national libraries with long-established traditions; and, second, the public libraries, which are of a more recent origin. In the present article it is impossible to take up the history of the libraries except in the briefest outline, as this study is in the main concerned with classification and cataloguing methods. To begin with, we shall take up the first group in each of the three Scandinavian countries, and then, in the same order, the second group. One feature is common to most university and national libraries, that is, the division of the general book collection into the national (i.e., Danish, Norwegian, or Swedish) collection and the foreign collection.<sup>1</sup> The national collections generally include not merely the books written in the native language, but all books, also in foreign languages, which deal with the country and its people. Each collection usually has its own catalogue; and the libraries have besides minor collections, often kept intact and also provided with independent catalogues.

The foundation for the library of the University of Copenhagen was laid in 1482, when Dr. jur. Peder Albertsen, one of the professors, presented the philosophic faculty with a gift of a medical work and several other books. Fifteen years later he presented his library, consisting of twenty-four works, to the university upon the condition that an annual mass be read for the benefit of himself, his friends, and the founders of the university. Little is known about the library in the early years; but, after the Reformation, the collection increased, and a catalogue, rather elementary in form, was prepared in 1602-3. The books were not systematically classified, and the usual fixed location obtained. Books were arranged in cases marked with the name of the class, as "Churchfathers," "Prophets," etc. The notation contained an indication of case, shelf, and sometimes of size as, for instance, "*Capsa Tertulliani Ordo 1 in 4°*." Occasionally the books were moved from one case to another without a corresponding change in notation, and this resulted in considerable confusion. The wars with Sweden in the seven-

<sup>1</sup> The library of the University of Copenhagen is an exception. The Royal Library of Copenhagen also separates the Swedish collection.



teenth century retarded the development of the library. Bartholin, who was librarian in the latter part of the seventeenth century, tried to create order as best he could, and made plans for an alphabetic catalogue modeled after James's catalogue of the Bodleian Library and for a table of authors chronologically arranged to be hung on the walls of the reading-room. The library was destroyed by fire in 1728; but the formation of a new collection began at once. When Nyerup became head librarian in 1803, he set to work on new systematic and author catalogues in book form. The bombardment of Copenhagen by the English fleet in 1807 happily caused little damage to the library. It was struck by one shell which destroyed a book, curiously enough, bearing the title *Defensor pacis*. The collection increased to 150,000 volumes in 1856, and in 1861 a new building was ready to house the library. During the administration of Sophus Birket Smith a modification of Hartwig's classification scheme was introduced and the work on new systematic and alphabetical catalogues begun; and, in these respects, the library is at present well equipped. The systematic catalogue is on cards. The notation consists of an abbreviation of the class with reference to the catalogue, i.e., "Fr. 142" stands for "Catalogue covering France, card No. 142."

The Royal Library of Copenhagen was founded in the seventeenth century by Frederik III from a number of private libraries, which had come into the possession of the king. For a while it grew rapidly and then, chiefly because of the indifference of the rulers, fell into disuse. During the administrations of J. H. Schlegel (1778-80) and Jon Erichsen (1780-87) order was again restored, cataloguing begun, and numerous valuable collections, notably that of Otto Thott, were added to the library. Moldenhawer's administration (1788-1823) was one of the most notable periods in the history of the library.

The early classification was in broad groups. The growth of the library necessitated a definite classification system; and the scheme of Reuss, in use in the library of the University of Göttingen and at the time highly regarded in Europe, was adopted and modified to suit the needs of the library. The books

were arranged in three series according to size, but agreement was retained between the shelf arrangement and the entry in the systematic catalogue. A new systematic catalogue for the foreign collection was compiled and finished in 1830 in 192 volumes. The Danish collection was also catalogued, and a modification of Rostgaard's scheme for the systematic catalogue introduced in 1863. The alphabetical card catalogue was finished 1875; and, in the new systematic catalogue, the differentiation between the three sizes was abolished. At the present the library has the following catalogues: an alphabetical and a systematic catalogue for both the Danish and the foreign collections, a catalogue for each of the manuscript collections, an alphabetical and a systematic catalogue for the music collection, and catalogues for the minor collections. The systematic catalogues are in binders, which permit the insertions of new leaves. The notation consists of the volume of the catalogue and the page number; thus the symbol "152, 27" means "Volume 152, page 27."<sup>1</sup> In 1926 the library had 850,000 volumes.

The National Library at Aarhus in Jutland, founded in 1902, is the youngest of the large Danish reference libraries. It possesses a collection of over 300,000 volumes. The books are arranged according to an individual classification system, and the cataloguing is not entirely finished.

The library of the University of Oslo serves also as the Norwegian national library. It was founded in 1811 and for its classification adopted the scheme of Ersch with twelve main classes. From a rather small beginning the collection has increased to 750,000 volumes in 1927. A catalogue of the books was made in 1815-28, but the books were given no notation; and lack of funds prevented the preparation of a systematic catalogue. In A. C. Drolsum the library had an able administrator (1876-1922); the library was moved to a new building in 1913; the staff was increased, and new cataloguing begun. Accessions to

<sup>1</sup> The notation in use in the Royal Library, and also the one used in the library of the University of Copenhagen, is simple and convenient; but their close connection with volume and page (or card) number of the catalogue might in certain emergencies involve difficulties.

the Norwegian collection, founded in 1883, were published in *Norsk Bokfortegnelse* until 1920 and are continued as five-yearly catalogues; for the other collection there were printed accessions catalogues as early as 1838. The library has now the following catalogues: for the Norwegian collection an alphabetic and a systematic catalogue on standard-size cards for the use of the public, in preparation; for the foreign collection an alphabetic main catalogue and a catalogue for the use of the public. The systematic catalogue for the natural sciences and philology has since 1922 been continued on standard-size cards. Besides, there are special catalogues for manuscripts and the minor collections.

The most important reference libraries in Sweden are the libraries of the universities of Uppsala and of Lund and the Royal Library of Stockholm. The library of the University of Uppsala was founded 1620, and it grew rapidly during the religious wars in Europe. In the Baltic campaign Gustav Adolf confiscated the library of the Jesuit college at Riga; later he seized the libraries of the Jesuit college at Braunsberg and of the cathedral at Frauenburg; and, during the German campaign, the libraries of the bishops of Würzburg and of Mainz came into his possession.<sup>1</sup> A large share of these collections he donated to the University of Uppsala; and that explains the fact that in 1649, in a collection of 9,000 volumes, the library had only 5 books in Swedish, and during the following twenty-six years, only 28 Swedish books were bought and 17 received as gifts.<sup>2</sup> The accessions, however, were not large, for from 1641 to 1654 scarcely more than thirty works were bought annually.<sup>3</sup> The royal order of 1692 demanding that publishers submit one copy to the university of each book published was disregarded until 1707.

In 1638-39 Tolfstadius, the librarian, compiled a shelf list in

<sup>1</sup> Some of these libraries, as that of the Bishop of Würzburg, are still pointed out to visitors to the library.

<sup>2</sup> Claes Annerstedt, *Förteckning öf Upsala universitetsbiblioteks ledare* (Uppsala, 1921), p. 9.

<sup>3</sup> *Ibid.*, p. 5.

two volumes; his work was continued by Granaeus, who also began the preparation of a systematic catalogue and a catalogue of accessions. The books were arranged simply according to the four faculties: theology, philosophy, law, and medicine. In 1703 the library had 30,000 volumes. Norrmannus, who became librarian in 1698, began the compilation of a new systematic catalogue, but finished only one class, theology; the other three classes were catalogued during the administration of his successor, Benzelius. In 1750-52 the collection was rearranged and shelved according to size and accessions; and that necessitated new cataloguing. Pehr Fabian Aurivillius, librarian (1787-1829), compiled a shelf list in nineteen volumes, a catalogue of later accessions in twelve volumes, and a two-volume alphabetical catalogue. When the collection was moved to the Carolina Rediviva in 1841, the librarian, J. H. Schröder, suggested that the books be classified scientifically; and a new scheme was apparently used in the shelving without altering the old notation. No trace of the scheme is left, however; many sections remained in the old order, and the books in the sections that were rearranged were often difficult to locate. During the administration of Annerstedt (1883-1904) the collection was classified according to a definite system; a call number was given for each book; and the author catalogue, consisting in 1904 of 365 volumes, was brought up to date. Besides this catalogue the library still uses the shelf list of Aurivillius, which was continued until 1820; it has a catalogue on loose (quarto) leaves, an alphabetical card catalogue of foreign accessions since 1912, an alphabetical card catalogue for Swedish accessions since 1916, and catalogues for special collections.

The library of the University of Lund was founded in 1671. Its collection of books increased rapidly during the first half-century, chiefly through donations and bequests. The libraries of Gripenhielm and of Rostius were acquired, and donations continued in the eighteenth century, though lack of funds prevented the library from extensive buying. Some cataloguing was done during the eighteenth century, but the methods were impractical. During the administration of A. Lidbeck (1799-1829) new catalogues were prepared; and in 1885 the collection

was classified according to a new scheme and new catalogues, begun on loose sheets, were finished by the end of the century. Besides the special catalogues the library has a general alphabetic and a general systematic catalogue for the Swedish and the foreign collections. In 1907 it moved into a new building, and it has now over 400,000 volumes.

The Royal Library of Stockholm, which is also the National Library of Sweden, was founded in the seventeenth century and grew out of the private collections of the kings. Like the library of the University of Uppsala, it also benefited by the confiscation of books during the religious wars. Torstensson, the Swedish general, carried off libraries from monasteries and Jesuit colleges after his victory at Olmütz, and sent them to Stockholm. Private collections were also taken. The library of the former Bohemian kings at Hradschin, which had been taken by the emperor, Ferdinand II, during the religious persecutions in Bohemia and brought to Prague, also fell into the hands of the Swedes at their capture of the city. Most of these collections came into possession of the Royal Library of Stockholm; but many valuable books and manuscripts were lost when the library was destroyed by fire in 1697.

The first librarian was appointed in 1611. During the seventeenth and eighteenth centuries the fortunes of the library depended largely upon the attitude of the rulers, and at times there was little or no progress. Catalogues were compiled as early as 1679; but no definite methods were established till about 1866, when a set of rules modeled after Panizzi's British Museum rules was prepared.<sup>1</sup> In 1885 the scheme of the foreign collection was published.<sup>2</sup> The scheme of the Swedish collection was made available at the library, but only in provisional form, in 1887. In 1919 a new scheme for the Swedish collection, prepared by L. Linder, first librarian, was published.<sup>3</sup> This scheme is evidently merely a convenient arrangement without strict

<sup>1</sup> The earliest extant copies have the date 1866. The rules were perhaps formulated shortly after 1860. (Cf. *Katalogregler för Kungliga biblioteket* [Stockholm, 1916], pp. 3 ff.)

<sup>2</sup> *Öfversigt öfver utländska afdelningens uppställning* (Stockholm, 1885).

<sup>3</sup> "Svenska samlingens uppställning," *Kungl. biblioteks handlingar* (Stockholm, 1919), Vol. XXXVIII, Appendix.

regard to scientific principles. The books are arranged in six main groups, marked A-F. The location appears to be fixed; and the numbers and the letters apparently refer to sections and shelves. The A section is arranged as follows:

- |                             |  |
|-----------------------------|--|
| A 1 <i>b</i> , 2 <i>b</i>   | } History, general; monographs; foreign <sup>1</sup> |
| 3 <i>a-b</i>                |  |
| A 3 <i>b-7a</i>             | History, Swedish                                     |
| A 7 <i>a-b</i>              | Church history, general and foreign                  |
| A 7 <i>b</i>                | Church history, Swedish                              |
| A 8 <i>a</i>                | Biography, general and foreign                       |
| A 8 <i>a-9a</i>             | Biography, Swedish                                   |
| A 9 <i>a-10b</i>            | Registers  |
| A 10 <i>b</i>               | Genealogy; heraldry; orders                          |
| A 10 <i>b-β</i>             | History of civilization, general and foreign         |
| A 11 <i>a</i>               | History of civilization, Swedish                     |
| A 11 <i>a-b</i>             | Archaeology, general and foreign                     |
| A 11 <i>b</i>               | Archaeology, Scandinavian; runes                     |
| A 12 <i>a</i>               | Numismatics; ethnography; anthropology               |
| A 12 <i>a-b</i>             | Geography, general and foreign                       |
| A 13 <i>a-b</i>             | Geography, Swedish                                   |
| A 14 <i>a-b</i>             | Travel, general and foreign                          |
| A 15 <i>a</i> , 16 <i>a</i> | Travel in Sweden                                     |
| A 16 <i>a</i>               | Maps   |
| A 16 <i>b-β</i>             | Sports and gymnastics                                |

The sections B, C, D, E, and F are arranged in a similar manner according to the same numbers and letters and, whenever possible, divided into general and foreign, and Swedish. Section B includes: bibliography, history of literature, journalism, philology, literature, art, music, the stage, dancing, the art of writing, and works on Finland; section C: theology, philosophy, theosophy, aesthetics, and dissertations; section D: political science, statistics, political economy, law, jurisprudence, and national government; section E: mathematics, astronomy, magic, natural science, medicine, learned societies, general periodicals, pedagogy, and military science; section F: the Tegner collection, the collection of works before the year 1700 (arranged according to a special scheme), general works, commerce, navigation, technology, economics, works in the Finnish language,

<sup>1</sup> The Swedish collection contains also books about Sweden in foreign languages.

general societies, encyclopedias, polygraphy, and general expositions. Oversize books and musical compositions are shelved separately.

It will be noticed that related subjects are grouped together; but there is no attempt at logical arrangement. The notation, also devised by Mr. Linder,<sup>1</sup> consists of abbreviations of class and subdivisions, as *Hist. Amer.* (*Historia, Amerikansk*) for works on American history, or *Statsr. Sv. Grundlov* (*Statsret, Svenska Grundlov*) for political science, Swedish constitution. In a class with numerous subdivisions this results in a rather long and cumbersome notation.

Besides special catalogues the Royal Library has a main catalogue on loose (octavo) leaves for both the Swedish and the foreign collections, a systematic catalogue on loose leaves for both collections, and bound author catalogues for older works. The library contains over 500,000 volumes. Since 1886 it has published an annual accessions catalogue of foreign literature, which includes foreign accessions in the libraries of Uppsala, Lund, and Göteborg. This catalogue lists the books under subject headings which vary slightly from year to year, and not according to a definite scheme. The Swedish accessions are listed in *Årskatalog for svenska boghandeln*.

This finishes our review of the large reference libraries. Their methods have developed in harmony with the traditions of Northern and Central Europe. To some extent they have been dependent upon local conditions; again, they have been subject to foreign influences, especially German. The Swedish libraries have shown more independence. It will be recalled that the library of the University of Copenhagen adapted Hartwig's Halle classification; the library of the University of Oslo, the system of Ersch; and the Royal Library of Copenhagen, Reuss's Göttingen scheme. In the field of cataloguing we notice a slight British influence. James's Bodleian catalogue served as a model for Bartholin's catalogue for the library of the University of Copenhagen; and the Swedish catalogue rules of 1866 for the

<sup>1</sup> "Svenska samlingens katalogsignaturer," *Kungl. biblioteks handlingar*, Vol. XXX-VIII (1919), Appendix.



Royal Library were to a great extent influenced by Panizzi's British Museum rules. During the nineteenth century, however, foreign influence has been predominantly German and the stimulus has come from Germany, as it had come from France in the previous century.

The public-library movement in the Scandinavian countries received a great impetus during the latter half of the nineteenth century; and the public libraries, which have no long-established traditions behind them, have been more easily influenced by new and better methods. The library associations, in Denmark, Danmarks Biblioteks-forening; in Norway, Norsk biblioteksforening; and in Sweden, Sveriges allmänna biblioteksforening, have done important work in promoting co-operation between the various libraries and establishing uniform methods. The stimulus has, since the beginning of the present century, come largely from the United States. The Dewey decimal classification has been introduced in the public libraries of Denmark and Norway, and met with success. Librarians have been well aware of its obvious defects, but it has, nevertheless, proved a convenient scheme for the purpose. In *Lärebog i Biblioteksteknik* this statement is made: "The ten-division is not a logical arrangement of literature, as if the products of the human spirit develop according to a decimal system, but a practical grouping and an enumeration which by the use of the recurring repetition of the ten-divisional scheme becomes intelligible and applicable."<sup>1</sup> Blöndal calls the decimal classification "the most interesting and important of modern systems," but adds that it is most useful for libraries in which modern literature predominates, but impractical if a strictly systematic arrangement is desired; and the compression of a subject into ten divisions throughout is unnatural.<sup>2</sup> Few of the libraries in the Scandinavian countries are, however, large. The municipal library of Copenhagen has about 250,000 volumes, but only about 60,000 in the main building and the rest in its many branches. The public library of Bergen has 100,000 volumes. In the smaller cities the libraries seldom exceed 30,000 volumes. The central

<sup>1</sup> P. 67.

<sup>2</sup> *Op. cit.*, pp. 20, 23.

libraries contain some literature for the purpose of research; but most of the literature is modern, and that explains the success of the Dewey system.<sup>1</sup>

Several books on modern methods have been published since the beginning of the century. In 1913 appeared Dössing's revision of the Cutter tables.<sup>2</sup> Instead of one letter and a number as recommended by Cutter, Dössing prefers two letters and a number of two figures, since he believes that, for instance, "Go 35" for Goldschmidt is easier to remember than the Cutter number, "G 572." A list of subject headings for use in Danish libraries has been compiled by Elisabeth Ostenfeld.<sup>3</sup>

In 1915 Statens Bibliotekstilsyn published a modification, which amounts to a free adaptation, of the Dewey decimal classification for use in public libraries.<sup>4</sup> Instead of three numerals before the decimal point as in Dewey, it uses only two. A second edition, a revision of the first, was published in 1929 with essentially the same main classes but extensive modifications in the subdivisions. The Introduction states:

The experience of past years has shown that we did right in choosing a decimal classification system and not one of the many systems which uses letters as class symbols. And just as it was the right thing to choose a decimal system, it was also right and of even greater importance that we did not remain content with a mere translation of the Dewey system, but revised and adapted it to Danish conditions.

The Danish decimal classification has the following classes:

- 00-09 Works of general and mixed contents
  - 00 Bibliology and the book arts
  - 01 Bibliography
  - 02 Library science
  - 03 Dictionaries and encyclopedias
  - 04 Collected works and writings of a general character

<sup>1</sup> Small public libraries seldom contain books other than those generally read by the people in the community. In each district there is a central library which serves as an exchange for the smaller and whose collection is accordingly more comprehensive, includes technical and foreign books, and is to some extent fitted out for research work.

<sup>2</sup> *Navnetabeller til Brug ved Ordningen af Biblioteker* (København, 1913).

<sup>3</sup> *Emneord til Brug ved Katalogisering og Udarbejdelse af Registre* (København, 1928).

<sup>4</sup> *Decimal-Klassedeling til Brug ved Ordningen af Bogsamlinger* (København, 1915; 2. Udg., 1929).

- 05 Periodicals and journals
  - 06 Learned societies and museums of a general character
  - 07 Journalism
  - 08 } Local collections
  - 09 }
  - 10-19 Philosophy
    - 10 Philosophy in general
    - 11 Logic
    - 12 Theory of knowledge
    - 13 Psychology
    - 14 Occultism and spiritism
    - 15 Ethics
    - 16 Philosophy of religion
    - 17 Metaphysics
    - 18 Philosophic systems
    - 19 Science and the spiritual life in general
  - 20-29 Religion
    - 20 The Christian religion in general
    - 21 Natural theology
    - 22 The Bible
    - 23 Doctrine. Dogmatics
    - 24 Devotional books. Sermons
    - 25 Missions among non-Christian peoples
    - 26 Church institutions and church work
    - 27 Church history
    - 28 Christian churches and sects
    - 29 History of religion. Mythology
  - 30-39 Social science
    - 30 Social science in general. Sociology
    - 31 Statistics. Population
    - 32 Political science and government in general
    - 33 Economics
    - 34 Law
    - 35 National government<sup>1</sup>
    - 36 Local administration. Private societies
    - 37 Education
    - 38 Insurance and the care of dependents
    - 39 Folk lore and folk life
  - 40-49 Geography and travels
    - 40 Geography and travels in general
    - 41 Europe in general
- <sup>1</sup> Includes only works on Danish government.

- 42 France
- 43 Great Britain and Ireland
- 44 Germany and the countries formerly constituting Austria-Hungary
- 45 The Scandinavian countries in general. Norway. Sweden. Iceland.  
Finland
- 46 Denmark
- 47 Other European countries
- 48 Other parts of the world
- 49 The Polar regions
- 50-59 Natural science and mathematics
  - 50 Natural science in general
  - 51 Mathematics
  - 52 Astronomy
  - 53 Physics and chemistry
  - (54 Chemistry)
  - 55 Geology. Paleontology. Meteorology. Hydrography.
  - 56 Biology. Evolution and heredity. Bacteriology
  - 57 Botany
  - 58 Zoölogy
  - 59 Anthropology and ethnography
- 60-69 Practical science<sup>1</sup>
  - 60 Practical science in general
  - 61 Medicine
  - 62 Engineering (mechanical, electrical, machinery, etc.)
  - 63 Agriculture. Forestry. Gardening. Fishing. Hunting
  - 64 Domestic economy
  - 65 Commerce and communication
  - 66 Chemical technology and industry
  - 67 Metal and other industries
  - 68 Manual training. Domestic trades and work
  - 69 Building and construction (including civil engineering and mining)
- 70-79 Art. Games. Sports
  - 70 Art in general
  - 71 Architecture
  - 72 Individual artists
  - 73 Sculpture
  - 74 Painting
  - 75 Graphic arts. Photography
  - 76 Art industry and trades
  - 77 The theater and allied arts
  - 78 Music and singing
  - 79 Public amusements. Dancing. Games. Sports

<sup>1</sup> "Useful arts" in Dewey.

- 80-89 Literature and language
  - 80 Aesthetics and literary research in general
  - 81 History of literature
  - 82 French literature
  - 83 English and American literature
  - 84 German literature
  - 85 Scandinavian literature in general. Old Norse and Icelandic
  - 86 Danish and Norwegian literature
  - 87 Swedish literature
  - 88 Literature of other countries.
  - 89 Philology and linguistics
- 90-99 History
  - 90 History in general
  - 91 Historical periods
  - 92 France
  - 93 Great Britain and Ireland
  - 94 Germany and the countries formerly constituting Austria-Hungary
  - 95 The Scandinavian countries in general. Norway. Sweden. Iceland.  
Finland
  - 96 Denmark
  - 97 Other European countries
  - 98 Other parts of the world
  - 99 Biography

It will be seen that a number of classes are completely rearranged in the Danish decimal classification. The 80 and the 90 classes (Dewey 800 and 900) are modified in the geographic divisions to bring about an arrangement more in agreement with the Danish point of view. Since a public library would hardly contain many works on philology, this class is placed under literature (89); and geography and travels (Dewey 910-19), a popular subject for general readers, is made a main class (40-49). The class philosophy is rearranged, and such subjects as occultism and spiritism, and science and the spiritual life (religion, thought, etc.), popular topics, are given greater prominence. The natural science and practical science classes (Dewey 500-599 and 600-699) are modified to bring about a more practical grouping in accordance with the modern point of view. The section 00 is assigned to bibliography and the book arts, and 08 and 09 (Dewey 080, special libraries and polygraphy, and 090, book rarities) are reserved for local collections. The sub-

divisions are extensively revised, certain topics being omitted and others added, practical considerations determining the decision.<sup>1</sup>

The Danish decimal classification is published in various forms, one without decimals for use in small, and one with one decimal for use in larger libraries. Provisions for further expansion are given in notes; but the notation is not carried beyond two decimals. The mnemonic features peculiar to the Dewey system are retained, and so are the Dewey form divisions; and if further expansion becomes necessary, this can be carried out on the principles of the Dewey system. The Danish decimal classification is used in the Copenhagen municipal libraries, in the library of Sorø Academy, in most of the public libraries, in *Dansk Bogfortegnelse*, and in *Dansk Tidsskrift-Index*.

Norway was the first of the Scandinavian countries to adopt American methods in its public libraries. In 1898 Haakon Nyhuus was appointed librarian of the Deichman Library in Oslo. A reorganization of the library was contemplated, for the books had no notation, and there was no serviceable catalogue. Nyhuus had been eight years in America and had been connected with the Newberry Library and the Chicago Public Library. There was no public library in the Scandinavian countries which he could take as a model; and in the reorganization of the library he naturally looked to America for methods and relied upon his previous experience. In 1903 he adapted the Dewey system for use in the library. It worked satisfactorily; and the public libraries of Bergen and Trondheim were later reorganized on the same principles. The decimal classification is now generally used in the Norwegian public libraries.<sup>2</sup>

Sweden, on the other hand, has taken its own course; and the Dewey system is used in only a few libraries. The classification scheme for public libraries issued by Sveriges allmänna biblioteksörening has been favorably received.<sup>3</sup> It is conceived

<sup>1</sup> In the arrangement of the subdivisions, the Danish decimal classification has been considerably influenced by the Swedish classification scheme for public libraries.

<sup>2</sup> Cf. Arne Arnesen, *Klassifikasjon efter Melvil Dewey* (Kristiania, 1920).

<sup>3</sup> *Klassifikationssystem för svenska bibliotek* (Stockholm, 1921).

on a national basis and has twenty-two main classes listed under the capital letters from *A* to *V*, and the subdivisions are denoted by lower-case letters. The notation is mixed.

The readiness with which the public libraries have accepted modern methods is also seen in the cataloguing rules. The large reference libraries have developed a tradition of their own—a tradition in harmony with that of the German libraries—and their rules are, therefore, similar to those embodied in the Prussian rules of 1899. Blöndal, writing in 1912, mentions that, for the alphabetical catalogue, the German rules had become the prime authority.<sup>1</sup> Blöndal objects to the use of corporate entry, because people are more likely to remember the title of a book than the agency responsible for its publication;<sup>2</sup> but he favors the Anglo-American method of entering under the first word of the title not an article.

The rules of the Royal Library of Copenhagen<sup>3</sup> and the rules for the catalogue of the foreign collection in the library of the University of Oslo<sup>4</sup> are concerned principally with title entry and have much in common with the Prussian rules. The rules of the Royal Library of Stockholm,<sup>5</sup> however, indicate a decided Anglo-American influence.<sup>6</sup> These rules are a revision of

<sup>1</sup> *Op. cit.*, p. 2.

<sup>2</sup> Mr. Blöndal repeats this assertion in his contribution to Dahl's *Haandbog i Bibliotekskundskab* (II, Part II, 423). It is, however, a debatable question. In some cases it is undoubtedly true; but, in most instances, it would seem reasonable to assume that the society, institution, or other organization responsible for the publication would be more likely to be remembered. Moreover, title entry has this disadvantage that, unless the order of the words or the catchword is recalled, the work is difficult to locate. Besides, one must not lose sight of the great advantage of finding in one place all the publications of an institution, or a society, etc., which in the case of personal authors is regarded as almost a *sine qua non*.

<sup>3</sup> *Regler for Affattelsen af Katalogsedler i det Kongelige Bibliotek* (Köbenhavn, 1910).

<sup>4</sup> *Katalogiseringsregler for den alfabetiske seddelkatalog ved universitets bibliotekets utendiske afdeling* (Kristiania, 1914).

<sup>5</sup> *Katalogregler för Kungl. biblioteket* (Stockholm, 1916).

<sup>6</sup> The outstanding differences between the Prussian and the Anglo-American codes are these: Corporate entry is not admitted by the Prussian rules, but extensively employed by the Anglo-American. Title entry is, in the Prussian rules (with numerous modifications and exceptions), under the first noun in the nominative case; in the Anglo-American, under the first word not an article. Librettos are entered according to the Prussian rules under the composer; according to the Anglo-American, under the libret-



the code of 1866, and, since it was thought unwise to permit a too-radical departure from the practice of fifty years, the new rules represent to a great extent elaborations of and additions to the old rules. Corporate entry is admitted.<sup>1</sup> A married woman is entered under the latest name used, unless she consistently or by preference has written under a former name;<sup>2</sup> and joint authors are entered under the name of the first author followed by the names of the others.<sup>3</sup> The books of the Bible are entered under the Swedish form of their names,<sup>4</sup> and there is a strong tendency to use Swedish and modern forms of names whenever possible; but, in the entry of names with a prefix<sup>5</sup> and in title entry,<sup>6</sup> the Prussian rules are followed.

Anglo-American influence is felt more strongly in the rules for public libraries in Denmark and Norway. The Danish rules of 1917<sup>7</sup> admit corporate entry,<sup>8</sup> the title is entered under the first word not an article,<sup>9</sup> the books of the Bible under their Danish names,<sup>10</sup> and joint authors, when not more than three, under the name of the first author followed by the names of the others.<sup>11</sup> In the entry of names with a prefix,<sup>12</sup> however, the rules follow the German practice, and librettos are entered under the name of the composer with an added entry for the librettist.<sup>13</sup> A married woman is entered under the name best known with a reference from the name or names not selected as entry word.<sup>14</sup>

tist with an added entry for the composer. In names with a prefix, the Prussian rules generally make the contraction of an article and a preposition the entry word; French names only are so entered in the Anglo-American. The names of married women are treated like compound names in the Prussian code; in the American, generally entered under the latest name. Books of the Bible and Bible characters the Prussian rules enter under the form found in the Vulgate; the Anglo-American, in the English form. Finally, joint authors are entered, according to the Prussian rules, under the name of the first author with references from others; in the Anglo-American, under the name of the first author followed by that of the second, if not more than two are mentioned. (The Library of Congress rules, however, enter only under the name of the first author with an added entry for the second.)

<sup>1</sup> Rules 67-71.<sup>3</sup> Rule 45.<sup>5</sup> Rule 38.<sup>2</sup> Rule 33.<sup>4</sup> Rule 100.<sup>6</sup> Rules 72-98.<sup>7</sup> *Katalogisering. Raad og Regler til Brug ved Ordningen af Bogsamlinger* (Köbenhavn, 1917).<sup>8</sup> Rules 40-54.<sup>11</sup> Rule 29.<sup>13</sup> Rule 142.<sup>9</sup> Rules 74, 101, 168.<sup>12</sup> Rule 36.<sup>14</sup> Rule 20.<sup>10</sup> Rule 79

The Norwegian rules are the result of considerable deliberation. A set of rules for use in public and children's libraries was compiled in 1910 by Arne Arnesen and Haakon Nyhuus. In 1918 a committee was formed to prepare a set of rules for Norwegian libraries, and it was joined in 1922 by representatives of the library of the University of Oslo. A set of uniform rules was agreed upon;<sup>1</sup> but the university library inserted a number of variations representing its own practice.<sup>2</sup> The rules are in many instances almost a translation of the Anglo-American rules. Corporate entry is admitted,<sup>3</sup> titles are entered under the first word not an article,<sup>4</sup> married women under the latest name used,<sup>5</sup> and books of the Bible under the Norwegian form of the names.<sup>6</sup> In the entry of names with a prefix the rules lean toward the German practice,<sup>7</sup> and librettos are entered under the composer.<sup>8</sup> Joint authors are entered under the name of the first author with references from the names of the others.<sup>9</sup> It is interesting to notice that, in the entry of table talk and interviews, the rules go contrary to Anglo-American practice and enter under the name of the reporter instead of under that of the person interviewed.<sup>10</sup>

The greatest progress is observed, in recent times, in the development of public libraries. The large reference libraries have been slow to change. Modifications are expensive when vast collections are involved, and funds are often lacking; it is, furthermore, difficult to break with long-established tradition. A

<sup>1</sup> *Katalogiseringsregler for norske biblioteker* (Oslo, 1925).

<sup>2</sup> The most important of these relate to corporate entry and title entry. Works published by institutions and societies dealing with the organization and work of these bodies are entered under their names; reports of conferences, congresses, and meetings under the names of such conferences, etc., publications of an exposition under the official name of the exposition; and official publications of world-expositions under the term "World exposition," followed by year and place. All other works by "impersonal authors" are entered under the title; but a reference is made from the body if its name is mentioned on the title-page (cf. *ibid.*, pp. 23-24). Titles are entered under the first noun in the nominative case, except when the title is a sentence, an exclamation, or a question, in which case the entry word is the first word not an article (cf. *ibid.*, p. 25).

<sup>3</sup> Rules 52-80.

<sup>4</sup> Rule 82.

<sup>5</sup> Rule 39.

<sup>6</sup> Rule 86.

<sup>7</sup> Rule 35.

<sup>8</sup> Rule 30.

<sup>9</sup> Rule 13.

<sup>10</sup> Rule 27.

desire for uniformity is, however, evident; and two widely differing systems cannot exist side by side for any length of time without one influencing the other. There is a possibility, therefore, that in time an approximate agreement between the German and the American cataloguing rules may be effected, similarly also more uniformity of methods between the reference and the public libraries.

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CLAUDE H. CHRISTENSEN

GRADUATE LIBRARY SCHOOL  
UNIVERSITY OF CHICAGO

## JOHANN NEUMEISTER: AN ASSISTANT OF JOHANN GUTENBERG?

INVESTIGATIONS into the origin and early development of the art of printing have given rise to innumerable questions which have not yet and perhaps never can be settled. The activities of Johann Neumeister provide some of these questions, and in particular the one indicated in the title.

Johann Neumeister was a German and a native of Mainz, where he may have formed some connection with a printing shop as early as 1459.<sup>1</sup> He apparently remained at Mainz until 1463 when he, together with a number of other German printers, began a noteworthy exodus into Italy to seek new fields and wider markets. His early sojourn in Italy remains a matter of obscurity, though it is conjectured that he was at Rome.<sup>2</sup> In any case there is sufficient evidence to show that in 1470 he was established at Foligno, where he set up the fourth press to be operated in Italy.<sup>3</sup> Like most of the itinerant printers of his time, Neumeister had insufficient capital to set up independently, and consequently had to seek financial assistance from whomever he could persuade to furnish it. He adopted the cus-

<sup>1</sup> Auguste Claudin, *Les Pérégrinations de J. Neumeister, compagnon de Gutenberg en Allemagne, en Italie et en France (1463-1484); son établissement définitif à Lyon (1485-1507) d'après les monuments typographiques et des documents originaux inédits avec notes, commentaires et éclaircissements* (Paris, 1880), p. 44. Van Praet (*Catalogue des livres imprimés sur vélin*, p. 34) is the authority cited for this statement by Claudin, who, however, doubts the evidence.

<sup>2</sup> Claudin, *op. cit.*, pp. 44 f.; G. Fumagalli, *Lexicon typographicum Italiae: Dictionnaire géographique d'Italie pour servir à l'histoire de l'imprimerie dans ce pays* (Florence, 1905), p. 157.

<sup>3</sup> Fumagalli, *op. cit.*, p. 157; Karl Faulman, *Illustrierte Geschichte der Buchdrucker-kunst, ihrer Erfindung durch Johann Gutenberg und ihrer technischen Entwicklung bis zur Gegenwart* (Vienna, 1882), p. 179; Felix Desvernay, "Origines de l'imprimerie à Lyon," *Bulletin du bibliophile* (1896), pp. 397-407; Demetrio Marzi, "Giovanni Gutenberg e l'Italia," *La Bibliofilia*, II (1900), 93; Dr. Falk, "Die Schüler Gutenbergs, Fusts und Shöffers," *Zentralblatt für Bibliothekswesen*, IV, No. 5 (1887), 216; Desbarreaux-Bernard, "Notice bibliographique sur le Missel d'Uzes," *Bulletin du bibliophile*, II (1874), 466; D. Marzi, "L'Arte tipografica in Foligno," *La Bibliofilia*, II, 23.

tomary method of arousing the interest of a wealthy patron in his enterprise and in 1470 was associated with Aemiliano de Orfinis or Orsinis.<sup>1</sup> The first book published after effecting this arrangement was the *De bello Italico adversus Gothos* of Leonardus Brunus Aretinus (1470). Two other works were printed at Foligno in the succeeding two years: *Ciceronis epistolae familiares* and the first edition of Dante's *Divina comedia*.<sup>2</sup> About 1472 Orfini's assistance ceased, probably because the enterprise was not profitable.<sup>3</sup> For the next seven years Neumeister's activities are shrouded in obscurity. There is some evidence that he worked at Perugia and that he was involved in suits at law instituted by some of his workmen because of delinquent salaries.<sup>4</sup>

In 1479 Neumeister appeared in his native city of Mainz. This conclusion is based on the *Meditationes Cardinalis Johann de Turrecremata* published by him in September of that year. Earlier investigators attributed this work to the press at Foligno,<sup>5</sup> but later researches involving comparisons of the type forms and paper have resulted in allocating the publication at Mainz.<sup>6</sup> The typography, which closely resembles that of the forty-two-line Bible, is noteworthy for its unusual beauty, and the *estampes interrasiles* are even more remarkable. Neumeister's sojourn at Mainz was brief, owing probably to his insufficient resources to meet the competition of Schöffer; consequently the itinerant soon resumed his travels and ultimately took up residence at Lyons, a city recommended as offering resources and fresh openings to German printers. Neumeister did not go directly to Lyons, but stopped at various cities along the route, notably at Basle, and at Albi in Languedoc, at which latter city

<sup>1</sup> Claudin, *op. cit.*, pp. 45 f.; D. Marzi, "I tipografi tedeschi in Italia durante il secolo XV," *Festschrift zum fünfzehnjährigen Geburtstag von Johann Gutenberg*, ed. O. Hartwig (Mainz, 1900), p. 440; "L'Arte tipografica in Foligno," *La Bibliofilia*, II, 23 f.; Desbarreaux-Bernard, *op. cit.*, p. 466; Fumagalli, *op. cit.*, p. 157. Fumagalli insists that *Orsini* is entirely wrong, and that *Orfini* is the only correct form.

<sup>2</sup> Claudin, *op. cit.*, pp. 46 ff.; Marzi, "L'Arte tipografica in Foligno," *La Bibliofilia*, II, 32 f.

<sup>3</sup> Claudin, *op. cit.*, p. 47.

<sup>5</sup> E.g., Desbarreaux-Bernard, *op. cit.*, II, 467.

<sup>4</sup> *Ibid.*, pp. 49 ff.

<sup>6</sup> Claudin, *op. cit.*, p. 53.

he introduced printing, and in the four years he remained there (1480-84) he published four books, including a second edition of the *Meditationes Cardinalis de Turrecremata*.<sup>1</sup> While at Albi, Neumeister had the rather uncertain and temporary assistance of the bishop of Amboise.<sup>2</sup>

In 1485 Neumeister settled at Lyons, probably as the result of an opportunity to print the *Missale ecclesiae Lugdunensis* (1487) under the patronage of Cardinal Charles of Bourbon, archbishop of the diocese.<sup>3</sup> On the death of this prelate in 1488 Neumeister found another friend in Angelo Cattho, archbishop and count of Vienne in Dauphine, for whom he printed in 1489 the *Breviarium ecclesiae Viennensis*. This patron died in 1494, and in 1495 Neumeister printed *Missale ecclesiae Uzeciensis* for Bishop Nicholas Maugras. From this time forward the printer's fortunes declined, and in 1498 the municipal register accounted him as "poor." In 1495 he had associated himself with Michelet Topie, but in 1498 their relative positions seem to have been reversed, since from this time forward Neumeister was only a workman, and no longer active as a master-printer.<sup>4</sup>

Only in recent years have researches revealed any facts of Neumeister's life later than 1507. It is now thought that Guillaume Balsarin, another Lyonnaise printer, used for his first editions the type which had belonged to Neumeister.<sup>5</sup> Claudin's later researches had led him to doubt the identity of the Neumeister of Foligno and the Neumeister of Albi and Lyons. He points out that Neumeister the elder of Foligno (of whom there are traces in Florence in 1481 and 1482) must not be confused with Neumeister the younger, the printer of Albi and Lyons.

<sup>1</sup> *Ibid.*, pp. 60 f.; Claudin, *Histoire de l'imprimerie en France au XV<sup>e</sup> et au XVI<sup>e</sup> siècle* (Paris, 1904), III, 354; Desvernay, *op. cit.*, p. 397; L. H. Labande in Avignon, "L'Imprimerie en France au XV<sup>e</sup> siècle," *Festschrift Gutenberg*, pp. 363 f.

<sup>2</sup> Claudin, *Pérégrinations de Neumeister*, pp. 71 f.

<sup>3</sup> *Ibid.*, pp. 73 f.

<sup>4</sup> *Ibid.*, pp. 79 f.; Claudin, *Histoire de l'imprimerie en France*, III, 376 ff.; Baron Ernouf, "Origines de l'imprimerie à Albi en Languedoc; Revue," *Bulletin du bibliophile* (1880), pp. 560 ff.; Desvernay, *op. cit.*, pp. 399 f.

<sup>5</sup> J. Baudrier, *Bibliographie lyonnaise: Recherches sur les imprimeurs, libraires, relieurs, et fondeurs de lettres de Lyon au XVI<sup>e</sup> siècle, douzième sér.* (Lyon, Paris, 1921), p. 43.



Both, he adds, were natives of Mainz and manuscript copyists before they became printers.<sup>1</sup> Evidence pointing to this conclusion which has come under the present writer's notice has been too meager to justify a revision of the orthodox account. Neumeister's later years were spent in Lyons, where he died in 1522.<sup>2</sup>

Much of the evidence regarding Neumeister's work is of a sort open to varying interpretation and consequently the subject of frequent controversy. The most noteworthy question of disagreement revolves about the tradition that in 1463 Johann Neumeister was an assistant in Gutenberg's workshop at Mainz. This tradition was inaugurated in 1802 by Gotthelf Fischer, a bibliographer in high repute among his contemporaries and successors.<sup>3</sup> The entire question rests on the evidence of Fischer, who bases it on the colophon of a book that no one but himself has seen. The incunable in question is *Tractatus de celebratione missarum*, supposed to have been printed by Gutenberg and Neumeister when associated. Fischer describes it as a quarto of thirty leaves, with twenty-eight lines to the page.<sup>4</sup> The colophon as recorded by Fischer contains the question of central interest:

CARTHUSIA PROPE MAGUNT̄M POSSIDET EX LBER  
DONACONE JOANIS DICTI A BONO MONTE OPUSCU  
MIRA SUA ARTE SC̄ E JOHANNIS NUMMEISTER  
CLERIC CONFECTU ANNO DM̄ M<sup>o</sup> CCCC<sup>o</sup>  
LX            iij            xiiij            KAL            JUL

The last syllables, Fischer says, were cut off in the binding, but, he adds, emendation is easy.<sup>5</sup> Various bibliographers have interpreted the abbreviations differently. The particular point of difficulty is SC̄ E.

<sup>1</sup> *Histoire de l'imprimerie en France*, III, 368.

<sup>2</sup> *Ibid.*, p. 378.

<sup>3</sup> Claudin, *Pérégrinations de Neumeister*, pp. 39 f.

<sup>4</sup> Gotthelf Fischer, *Essai sur les monuments typographiques de Jean Gutenberg, Mayençais, inventeur de l'imprimerie* (Mainz, 1802), pp. 81 f.

<sup>5</sup> *Ibid.*; Claudin, *Pérégrinations de Neumeister*, p. 41.

Auguste Bernard reads *sc(ientia) e(tiam)*.

P. Deschamps reads *s(o)c(ii) e(tiam)*.

Desbarreaux-Bernard reads *sc(ilicet) e(t)*.<sup>1</sup>

Van Praet reads *p(er)*.<sup>2</sup>

Claudin offers a theory of his own, not, however, without expressing his suspicion regarding the authenticity of the entire inscription. How, he asks, does one know that the binder cut off portions of the first two lines, easy to emend, and left undamaged the last two containing the date? Claudin presents the colophon with lacunae emended as follows:

CARTHUSIA PROPE MAGUNTIA POSSIDET EX LBER	ALI
DONACIONE JOANIS DICTI A BONO MONTE OPUSCU	LUM
MIRA SUA ARTE SC E JOHANNIS NUMMEISTER	MAG.
CLERIC. COMPLETŪ. ANNO DNI M CCCC.	
LX iij. xiiij KAL. JUL. <sup>3</sup>	

Claudin deals with the difficulty presented by SC E by proposing *sicut et*, and gives the complete colophon without abbreviations as

Carthusia prope Maguntiam possidet ex liberali donacione Joannis dicti a Bono Monte opusculum mira sua arte sicut et Johannis Nummeister Maguntineri clerici completum. Anno Domini MCCCC lxiij xiiij Kalendas Julii.<sup>4</sup>

With this much evidence before us, several relevant points may be considered: (1) Fischer's story regarding the book; (2) the actual existence of the *Tractatus*; (3) the date of the colophon; (4) other external and internal evidence; and (5) the consensus of opinion among bibliographers.

The *Tractatus de celebratione missarum* is supposed to have belonged to a Carthusian monastery near Mainz, whence it was brought in 1781 into the university library of that city. Auguste Bernard made in 1851 intensive but fruitless searches for the

<sup>1</sup> Claudin, *Pérégrinations de Neumeister*, p. 41; Auguste Bernard, *De l'Origine et des débuts de l'imprimerie en Europe* (Paris, 1853), I, 203.

<sup>2</sup> Claudin (*Pérégrinations de Neumeister*, p. 41) remarks that this is a very intelligible reading, but questions the possibility of this variant. He suggests that Van Praet might have been in correspondence with Fischer.

<sup>3</sup> *Ibid.*, p. 42.

<sup>4</sup> *Ibid.*, pp. 42 f.

volume, at which time Fischer wrote to him regarding the matter, "Not only have I seen the inscription with my own eyes, but the work should still be found in the library [of Mainz]. It is bound in a quarto volume with several other works."<sup>1</sup> The colophon is described as having been written by the hand of the rubricator in red ink.<sup>2</sup>

Since no one but Fischer has seen the book, there is no actual proof that the *Tractatus* ever existed. This point, however, is less open to question, because Fischer compares the type form with those of the *Meditationes* of Turrecremata (1479), with the *Speculum sacerdotum* of Herrmanni de Saldis, and with the *Dyalogus inter hugonem cathones et oliverium*, and reaches the conclusion that they were all printed with the same or with very similar type, namely, that of Gutenberg's shop.<sup>3</sup>

Assuming that the book did exist, the next inquiry concerns the authenticity of the inscription, which is regarded as a forgery by a number of bibliographers. Suspicion is first aroused by Fischer's own words. After describing the *Tractatus* and giving a lengthy *incipit*, he says, "*sans souscription*." This would seem to imply that the *Tractatus* had no colophon, but, after a few sentences of additional description, he says, "We read a remarkable inscription which seems to leave no doubt as to the printer of this work . . .," and thereupon proceeds to give the colophon noted above.<sup>4</sup> These apparently contradictory statements are not necessarily incompatible, since it is likely that by the words "*sans souscription*" Fischer merely meant "without printed colophon." There are, of course, innumerable examples of colophons written by the hand of the rubricator or by some

<sup>1</sup> Fischer, *op. cit.*, pp. 81 f.; Antonius van der Linde, *Gutenberg. Geschichte und Erdichtung aus den Quellen Nachgewiesen* (Stuttgart, 1878), p. 56; A. Bernard, *op. cit.*, I, 203.

<sup>2</sup> Van der Linde, *op. cit.*, p. 56.

<sup>3</sup> Fischer, *op. cit.*, pp. 81 f.; Fischer, *Beschreibung einiger typographischen Seltenheiten nebst Beytragen zur Erfindungsgeschichte der Buchdruckerkunst*, Vierte Lieferung (Nürnberg, 1803), p. 20; Sechste Lieferung (Nürnberg, 1804), No. 100 (n.p.). Claudin, De-bure, and others have pointed out that the type form of the *Turrecremata* strongly resembles that of Gutenberg's press (Claudin, *Origines de l'imprimerie à Albi en Languedoc*, p. 30).

<sup>4</sup> Fischer, *Essai*, pp. 81 f.

other person connected with the publication of a book. Whatever may be the proper interpretation of Fischer's phrase, in itself it proves nothing for or against the authenticity of the colophon.

At a later date, in describing the *Dyalogus inter hugonem cathones et oliverium*, Fischer says that this "book is obviously the printing of Gutenberg, unless the printed colophon in the *Speculum of Salvation*, printed at Mayence, and the written notice in the *Celebration of the Mass* of 1463 are both false; which no one has asserted who has himself examined these subjects."<sup>1</sup> This sounds like a bit of casuistry on Fischer's part, because he was certainly aware that in 1804 his statement had not been investigated. Van der Linde asserts that the inscription is false, that the combination of a written inscription and printed book was mere craftiness on the part of Fischer, and that the statement just cited was designed for psychological effect upon the reader.<sup>2</sup>

In any case there are other grounds for suspicion. From the textual viewpoint the matter is most fully set forth by Claudin, who points out that the portions of the colophon supposedly cut off in binding are those easily emended, while the date is undamaged. This interpretation admirably meets the requirements which a fabricator would desire in a forgery, namely, the appearance of a spectacular contribution; and even if it is authentic its form causes it to appear circumstantial. At best the form of the colophon adds color to the idea of a fabrication. Though he fully recognizes the questionable aspects of Fischer's evidence and admits that Neumeister's association with Gutenberg remains in a legendary state, yet it is apparent that Claudin would like to accept the tradition as a fact, and he actually puts into the title of his monograph the words "compagnon de Gutenberg."<sup>3</sup>

Van der Linde is the most uncompromising critic of Fischer's claims. He points out, in controverting the authenticity of the

<sup>1</sup> *Typographische Seltenheiten*, Sechste Lieferung (1804), No. 100.

<sup>2</sup> *Geschichte der Erfindung der Buchdruckerkunst*, p. 69.

<sup>3</sup> *Pérégrinations de Neumeister*, p. 83.

inscription, that the latinization of "Gutenberg" did not occur so early as 1463.<sup>1</sup> This criticism, if valid, decidedly strengthens Van der Linde's argument and affords an example of oversight on the part of the fabricator. On the other hand, the form *Bono Monte* had certainly to be used somewhere for the first time. Van der Linde's second objection likewise rests upon a sound critical basis. A war in 1462 between rival archbishops caused much confusion in the city, while many of the defeated party lost civil rights and were forced to go into exile.<sup>2</sup> The circumstances of this conflict were decidedly complicated, but may be summarized briefly.

In 1459 Diether of Isenberg was made archbishop of Mainz, probably by simoniacal methods. He had difficulty in obtaining papal confirmation, which was granted subject only to the fulfilment of several conditions, with all of which Diether subsequently failed to comply. Political factions and alignments were intricately involved in the situation. Distrust of Diether was so pronounced that in 1461 Pope Pius II found a new candidate in Adolph of Nassau, and John Werner of Flassland was sent as papal legate with bulls depriving the incumbent of office and giving papal sanction to the new nominee. Diether began a vigorous opposition, but was deserted by his imperial ally, Albert Achilles, who went over to the side of Adolph of Nassau. Diether decided to fight but was temporarily deterred by the procrastinating attitude of the Count Palatine whose military assistance was essential. On November 11, 1461, Diether agreed to give up his see, but this arrangement proved to be evanescent, and on November 18 he made a new alliance with the Count Palatine, whereupon war broke out in the whole region. On January 8, 1462, the tide having turned in his favor, Diether issued a manifesto urging temporal and spiritual princes to support him. This document was printed at the press in Mainz. His ascendancy was not permanent, and on October 28, 1462, Mainz was captured by Diether's enemies. The town was loot-

<sup>1</sup> Van der Linde, *Gutenberg. Geschichte und Erdichtung aus den Quellen Nachgewiesen*, p. 56.

<sup>2</sup> *Ibid*, p. 56.

ed, the citizens expelled, and industry destroyed. From this date presses were set up throughout Europe by Germans, while printing was unknown to Mainz for nearly three years. The archbishops' war continued until the spring of 1463, and in October of that year a settlement was reached by which Diether gave up the archbishopric and Adolph of Nassau assumed his debts.<sup>1</sup> These facts provide a credible basis for the criticism that a piece of printing could not have been completed at Mainz in 1463. The fact that a document in favor of Diether had been issued by the Mainz press makes it doubly probable that when the city fell into the hands of his enemies no more printing was done until 1465, and that all printers found it to their advantage to depart for new regions.

A third question in Van der Linde's mind is the fact that Fischer was a friend of François Bodmann, who had earlier invented a similar fabrication regarding an incunable supposedly found at the cloister of St. Clare in the year 1728, namely, a thirty-six-line Bible which Bodmann together with Schwarz represented as having been the gift of Gutenberg and others. Schaab subsequently proved that this and other items had been later additions to the monastery catalogue.<sup>2</sup> Indeed, in a later study Van der Linde asserts that the colophon of the *Tractatus* was a forgery perpetrated by Bodmann himself.<sup>3</sup>

The opinion of the bibliographers is not at all conclusive. The majority accept Fischer's story without much question or investigation. In general, earlier investigators and those interested in other periods of Neumeister's life give only passing mention to the matter. Table I will perhaps most clearly demonstrate the consensus of opinion.

Regarding the question dealt with in this essay, any sort of conclusion is quite without value. The paucity of available evidence and its indecisive character make difficult an assessment

<sup>1</sup> Ludwig Pastor, *History of the popes* (London, 1900), III, 202 ff.; Van der Linde, *The Haarlem legend of the invention of printing by Lourens Janszoon Coster, critically examined* (translated from the Dutch by J. H. Hessels; London, 1871), p. 28.

<sup>2</sup> Van der Linde, *Gutenberg. Geschichte und Erdichtung aus den Quellen Nachgewiesen*, p. 56.

<sup>3</sup> *Geschichte der Erfindung der Buchdruckkunst* (Berlin, 1886), p. 69.

of its merits. Nevertheless, a summary will be attempted. The existence of the *Tractatus* though not proved appears very probable if not certain. No erudite fabricator would be so foolhardy

TABLE I

Name	Time of Writing	Attitude toward Fischer's Story
Auguste Bernard* . . . .	1853	Accepts tradition, but only after much investigation
Desbarreaux-Bernard† . . . .	1874	Criticizes emendation of colophon, but does not question authenticity
Van der Linde‡ . . . . .	{ 1878 1886 }	Rejects it as forgery
Baron Ernouff§ . . . . .	1880	Suspicious, but does not definitely repudiate story
Julius Petzhold   . . . . .	1883	Accepts, though somewhat suspicious
Dr. Falk¶ . . . . .	1885	Considers colophon a forgery of date later than the fifteenth century, but does not imply that Fischer is the perpetrator
Karl Faulman** . . . . .	1892	Accepts
Felix Desvernay†† . . . . .	1896	Accepts
L. H. Labande‡‡ . . . . .	1900	Accepts, but notes conjectural character of evidence
Demetrio Marzi§§ . . . . .	1900	Accepts
Auguste Claudin    . . . . .	1904	Suspicious, but accepts
G. Fumagalli¶¶ . . . . .	1905	Indecisive; calls story "a tradition which we cannot discuss"
Konrad Haebler*** . . . . .	1924	Accepts; apparently no investigation of this point

\* *De l'Origine et des débuts de l'imprimerie en Europe*, I, 203.

† "Notice bibliographique sur le missel D'Uzen," *Bulletin du bibliophile* (1874), pp. 465 f.

‡ Gutenberg. *Geschichte und Erdichtung aus den Quellen Nachgewiesen*, p. 69; *Geschichte der Erfindung der Buchdruckkunst*, p. 56.

§ *Bulletin du bibliophile* (1880), pp. 560 f.

|| "Ein neuer Druck Gutenbergs in Deutscher Sprache; 'Clagen und nützliche lere aus gemeinen beschriebenen rechten,'" *Neuer Anzeiger für Bibliographie und Bibliothekswissenschaft* (1883), pp. 308 f.

¶ "Der *Tractatus de sacrificio missae*: Moguntias," *Centralblatt für Bibliothekswesen*, II (1885), 21-23.

\*\* *Illustrirte Geschichte der Buchdruckerkunst, ihrer Erfindung durch Johann Gutenberg und ihrer technischen Entwicklung bis zur Gegenwart*, p. 179.

†† "Origines de l'imprimerie à Lyon," *Bulletin du bibliophile* (1896), p. 397.

‡‡ "L'Imprimerie en France au XV<sup>e</sup> siècle," *Festschrift Gutenberg* (1900), p. 363.

§§ "Giovanni Gutenberg e l'Italia," *Bibliofilia*, II (1900), 93; "I tipografi tedeschi in Italia durante il secolo XV," *Festschrift Gutenberg*, p. 440.

||| *Histoire de l'imprimerie en France*, III, 354.

¶¶ *Dictionnaire géographique d'Italie pour servir à l'histoire de l'imprimerie dans ce pays*, p. 157.

\*\*\* *Die deutschen Buchdrucker des XV. Jahrhunderts im Auslande* (Munich, 1924), p. 55.

as to manufacture both the book and the forgery therein. The question naturally arises as to what became of the book. It is of course possible that it accidentally disappeared. The present writer considers it more probable that the incunable was deliberately lost if not destroyed. Fischer certainly would not have wished to risk the destruction of his reputation by a discovery



of the forgery—conceding for the moment that there was a forgery—and so would adopt measures to prevent Auguste Bernard's or others' seeing the book. Internal evidence regarding the colophon has been reviewed and points undeniably to the conclusion that it was a later fabrication on the part of Fischer, Bodmann, or another. If authentic, the form of the colophon is certainly fortuitous; and when interpreted in relation to other doubtful points, the inscription appears very questionable. External evidence, particularly that relating to the state of affairs in and about Mainz in 1462 and 1463, goes far to strengthen suspicions already aroused. The fact that other assertions in Fischer's work have been proved fallacious provides additional foundation for questioning that now under consideration. Taking into account the criticisms of those bibliographers who have particularly given attention to the "*compagnon de Gutenberg*" claims, the unavoidable conclusion is that the entire tradition rests upon a forgery probably perpetrated by Fischer. This conclusion does not appear to be the result of a hypercritical attitude on the part of any scholar, nor is it the result of a controversy such as may often lead to exaggerated claims. In fact, the contrary is the case, for comparatively few critics repudiate the story. This, however, does not militate against its falsity, for very few scholars have undertaken any elaborate investigation of the matter. The fact that those who have are unanimously suspicious if not openly incredulous, united with their basing their criticism on logical and valid foundations, goes as far as possible without absolute proof to demonstrate the fallacy of Fischer's claims. Though it is impossible to prove that he was ever associated with Gutenberg, no one can deny that Neumeister was most successful in learning the art of printing, for the examples of his work exhibit a remarkable beauty of type form and decoration, and his great influence on the development of printing in both Italy and France cannot be discounted.

RUTH A. KETRING

DUKE UNIVERSITY LIBRARY

## THE CONTRIBUTORS TO THIS ISSUE

SUSAN GREY AKERS was born at Richmond, Kentucky, in 1889. After receiving the A.B. degree from the University of Kentucky and a certificate from the Library School of the University of Wisconsin, she was for seven years (1913-20) librarian of the department of hygiene of Wellesley College, Wellesley, Massachusetts. Two years (1920-22) as cataloguer at the University of North Dakota were followed by four years at the Library School of the University of Wisconsin, first as instructor (1922-26) and later as assistant professor (1926-28) of cataloguing and classification. In the summers of 1928 and 1929 she was at the Louisiana State University again teaching cataloguing and classification, which subject she also taught at University College, the University of Chicago, in 1929 and 1930. For the past three years she has studied at the Graduate Library School of the University of Chicago. In September of this year she began an appointment as associate professor in the School of Library Science of the University of North Carolina, in which capacity she is now serving.

LEON CARNOVSKY, A.B., was born in St. Louis in 1903, and received his degree from the University of Missouri. After taking the training course at the St. Louis Library School, he held the position of assistant to the librarian at Washington University. During the past two years he has been a Carnegie fellow at the Graduate Library School of the University of Chicago, where he has made a particular study of adult reading.

CLAUDE H. CHRISTENSEN was born in Lavensby, Denmark, in 1896, and was educated in Danish and German schools. He came to America in 1914, and in 1923 was graduated from the University of Minnesota with the A.B. degree. In 1928 he took his M.A. from the University of Chicago, and in the following years traveled in Europe, particularly in Germany and the Scandinavian countries, and also in Mexico and various parts of the states. Entering University College for preliminary study in library science, he was admitted to the Graduate Library School of the University of Chicago in the fall of 1930.

RUTH ANNA KETRING, born in 1905 at Hollansburg, Ohio, was

graduated from Earlham College in 1926 and in the following year taught English and Latin in the high school at Pennville, Indiana. In 1928 she went to Duke University, where she took her M.A. degree in history and became assistant in the newspaper department of that University's library. She was engaged in graduate study at the University of Chicago during the summers of 1927 and 1930 and, following the latter, returned to take charge of the manuscript department of Duke University Library.

WILLIAM M. RANDALL: for biographical information see the *Library quarterly*, I (1931), 89-90.

B. W. SCRIBNER was born in Ridgway, Pennsylvania, in 1885. He received his B.S. degree in chemistry from the Pennsylvania State College in 1908. Following fourteen years of industrial work connected with the chemical technology of paper, he was appointed, in 1923, chief of the paper section of the Bureau of Standards. This section, in addition to the usual laboratory facilities, includes a complete semi-commercial paper mill for paper-making studies of the properties of paper.

## THE COVER DESIGN

AS THE cover design for this issue, there is reproduced the device of Christophe Plantin (1514-89) of Antwerp. It was used from 1557 until his death, and thereafter by his widow and his successors. There is a hand emerging from the clouds, holding a pair of compasses, of which one leg is at rest and the other describes a circle. The encircling legend reads "*Labore et constantia*."

An examination of specimens from Plantin's press is all that is needed to determine how well he observed his motto. The labor is characterized by skill of the highest degree, both as to press work and beauty of type design. The freedom from typographical errors constitutes an example of unremitting diligence that has seldom, if ever, been surpassed.

## REVIEW ARTICLE

*Die Lektüre der Frau. Ein Beitrag zur Leserkunde und zur Leserführung.* By WALTER HOFMANN. Leipzig: Quelle & Meyer, 1931. Pp. 210. Rm. 9.

This most recent contribution of the Institut für Leser und Schrifttumskunde in Leipzig, of which the author is director, is a highly significant study. Its significance lies in the fact that it is the first systematic and conscientious attempt to describe the book-reading habits of social groups by means of circulation data. Nearly all libraries devote considerable time and money to the recording of book circulation. It is a well-established fact that many principles of reading behavior can be reliably inferred only from data concerning the reading behavior and attitudes of homogeneous groups. Hence, it is altogether astonishing that a study of this nature has not appeared years ago.

The study is valuable to librarians for the reason that it undertakes to show the subjects on which books are most in demand. When such subjects are determined for the clientèle of a given library, the librarians will presumably collect a larger number and variety of books on the subjects preferred and fewer books on other subjects.

The volume contains an Introduction of 26 pages, which describes the composition of the Leipzig Public Library patronage and the methods of investigation employed. The methods deserve more attention than they receive, since the actual records used in counting circulation are neither reproduced nor described in sufficient detail to enable other students to duplicate them.

Part I contains 28 graphs in which the book-borrowings of twelve major and several minor population groups of both sexes are distributed according to twelve classes of fiction and twenty-two classes of non-fiction. To facilitate comparisons, each graph presents two different groups and indicates by percentage the differences in the amount of borrowing by each group with reference to each class of books. The first part also presents lists of titles borrowed by the largest number of readers of each group. These titles constitute important evidence of the fact that groups differing in such important respects as sex differ also not merely in the subjects each prefers to read about but in the titles each chooses to read on the same subjects.

Part II disregards group distinctions and presents the frequencies of circulation for five different classes of literature among women as such. These data would be more impressive if accompanied by information concerning the adequacy of the sample. That is to say, until we know the degree to which the women who borrow books from the Leipzig Public Library represent all groups

of feminine readers, in the city of Leipzig at least, we have no right to assume that what is true of the borrowers is true of all women readers. None the less, it is reassuring to note the general agreement between the subjects on which the Leipzig women borrow *fewest* books and the subjects in which recent studies have shown American women to express *least* interest. The *preferences* of both groups are also consistent but the agreement is less marked.

Returning to Part I, which the reviewer considers most important, we may describe the data in somewhat greater detail. Circulation is expressed in figures that indicate the number of loans made by the library from 1922 to 1926, inclusive. If one person borrowed one book during this five-year period, one loan would be counted. On this basis, 38,585 persons borrowed 780,792 volumes. Of the borrowers, 65 per cent were men and 35 per cent women. Of the borrowings, 68 per cent were by men and 32 per cent by women.

The men and women borrowers are grouped according to sex, social-economic status, and age. Sex and age are, of course, perfectly definite criteria. Social-economic status is not. The author, however, has defined this third criterion with sufficient care to distinguish three main groups with a minimum of overlapping. The groups are designated as laborers, burghers, and intellectuals. Each differs from the others in respect to income, in amount of preparation or skill required by their occupation, and to some extent in amount of schooling.

Sub-groupings are occasionally employed within each sex. For example, the women of the burgher class above eighteen years of age are subdivided among homemakers, independent and employed, and intellectuals. The men of the burgher class and above eighteen years, are subdivided into four classes: (1) agents, clerks, servants, *et al.*; (2) independent dealers, merchants, brokers, etc.; (3) teachers and prospective teachers or ministers; and (4) other academic callings—professors, artists, booksellers, *et al.*

While the differences recognized in forming the major groups prevent the comparisons from revealing more than the somewhat gross influences of sex, age, and occupation upon the selection of reading, it is unlikely that the data would permit the finer groupings needed to reveal other social influences. In fact, the membership of certain groups is so small a proportion of the total—e.g., "intellectual women"—that the samples are probably unreliable. It is to be regretted that age is used only to distinguish readers above and below eighteen years. It should have been possible to distribute the readers among at least three, and preferably five, age levels.

Having indicated the methods used to record the gross amount of borrowing by the main groups of readers, we should describe the classes of books from each of which the relative amount of borrowing by each group is shown. Table I has been prepared for this purpose. It is a composite of fourteen graphs shown in the text, and shows the percentile borrowings from each class of books by men and women laborers, burghers, and academics. In reproducing the percentages, they have been "smoothed," i.e., taken to the next higher digit,

except for the "intellectuals," where such smoothing would obscure important differences. Table I may thus serve to illustrate both the method of showing differences in the relative circulation of books in each class and also the major findings themselves.

To prevent serious error in reading the percentages shown in column IV, it is necessary to compare the percentages shown in columns I and II. Column I shows the means of the percentages in columns IV-A and IV-B—that is, the relative amount of borrowing from each class of books by the total library population. Column II shows (by percentage of the total collection over the five-year period) the proportion of volumes available for loan in each class. It would greatly simplify the comparison of the loans from each class if the percentages in column IV were weighted according to the distribution of column II. The percentage of borrowings in each class would not then be affected, as it now is, by the fact that in some classes many books are available for loan and in others relatively few. Both the actual and the weighted percentages are necessary.

With so much by way of description, we may now examine some of the more important implications of the study as a whole. At the outset, the reader should note that any such analysis of circulation is often undertaken for either one or both of two purposes, which should be clearly distinguished. The first purpose is to find out what certain people read. The second is to infer their reading interests, that is, to discover from their actual reading what they would read if they could. Either aim is difficult to accomplish with satisfactory completeness and reliability for any given group of readers. Hofmann seeks to accomplish both for each of several different groups. We shall soon consider the two projects in order.

Anyone who has given no particular thought to the matter is likely to suppose that the two are the same, that is, he is likely to think that people read what they like. On this assumption it would be foolish to try to distinguish reading interests from actual reading. People must be interested in what they read or they would not read it.

Such reasoning, however, is highly superficial, whether applied to reading or to any other human activity. Life is full of conditions that prevent anyone, who is not altogether naïve, from the complete satisfaction of his wants. Many people in the United States drink water who doubtless would prefer, occasionally, to drink something else. Most of us use articles we can afford to buy instead of articles we should buy if we could. When differences in cost are eliminated, as in choosing moving-picture shows, one-dollar neckties, or library books, we choose the article we like from the list of those available, but seldom either expect or achieve complete satisfaction in the choice.

The fact that the relative number of borrowings from each of Hofmann's thirty-four classes is so consistent with the relative number of volumes in each class is sufficient evidence that the reader's choice is restricted by the books available.

TABLE I  
PERCENTAGE WHICH LOANS TO EACH GROUP FROM EACH CLASS OF BOOKS ARE OF TOTAL NUMBER OF  
LOANS TO THAT GROUP, OF FICTION AND NON-FICTION, RESPECTIVELY

COLUMN I Mean Percentage— All Groups	COLUMN II Percentage Which Books In Library Added to total Collection from 1922 to 1926	COLUMN III		COLUMN IV							
		Classes of Books (780,792 Volumes)		Groups of Readers							
		All Groups		Laborers		Burghers		Intellectuals			
		(A) Men	(B) Women	(C) Men	(D) Women	(E) Men	(F) Women	(G) Men	(H) Women		
FICTION											
3.5	2.0	24,000	165,000	115,000	75,000	138,000	90,000	No table shown	No table shown		
6.0	3.0	6.0	1.0	8.0	1.0	4.0	1.0				
8.5	5.0	3.0	9.0	2.0	11.0	3.0	8.0				
2.5	1.0	9.0	8.0	9.0	8.0	9.0	8.0				
10.5	6.0	3.0	2.0	3.0	3.0	3.0	2.0				
3.0	2.0	5.0	16.0	4.0	16.0	6.0	16.0				
1.5	1.0	2.0	4.0	2.0	4.0	2.0	3.0				
1.5	1.0	1.0	2.0	1.0	3.0	1.0	2.0				
0.15	0.02	1.0	2.0	1.0	2.0	1.0	1.0				
0.7	0.5	0.2	0.1	0.3	0.1	0.2	0.1				
5.0	3.0	1.0	0.4	1.0	0.3	1.0	0.4				
13.0	6.0	3.0	7.0	4.0	10.0	2.0	4.0				
		11.0	15.0	10.0	14.0	12.0	15.0				

\* The abbreviations in parentheses are helpful in comparing this table with other tables in the text.



TABLE 1—Continued

COLUMN I	COLUMN II	COLUMN III	COLUMN IV							
			Groups of Readers							
			All Groups		Laborers		Burghers		Intellectuals	
Mean Percentage—All Groups	Percentage Which Books Are of Total Collection from 1923 to 1926	Classes of Books (786,792 Volumes)	(A) Men	(B) Women	(C) Men	(D) Women	(E) Men	(F) Women	(G) Men	(H) Women

Non-Fiction										
			260,000	64,000	127,000	20,700	133,000	43,000	21,000	8,700
5.0	2.0	Number of loans	2.0	8.0	2.0	9.0	1.0	7.0	1.03	3.7
0.35	1.0	(Bio) Biography	0.4	0.3	0.5	0.3	0.4	0.3	0.23	0.39
0.35	1.0	(Gar) House-home, garden	0.5	0.2	0.4	0.1	0.6	0.3	0.58	0.67
0.65	2.0	(Gra) Speech and writing	1.0	0.3	0.5	0.2	2.0	0.3	1.7	0.4
0.7	1.0	(Han) Trades	1.0	0.4	1.0	0.4	1.0	0.4	0.54	0.73
3.0	5.0	(Hei) Household arts	4.0	2.0	4.0	1.0	5.0	2.0	5.0	3.2
0.85	1.0	(Hist) History	0.8	0.9	1.0	1.0	1.0	1.0	0.7	1.2
2.0	3.0	(Hyg) Health	2.0	2.0	2.0	1.0	3.0	3.0	4.1	5.0
2.0	3.0	(Kun) Pictorial Arts	3.0	1.0	3.0	1.0	3.0	1.0	2.5	2.1
1.5	2.0	(La) Peoples and places	1.0	2.0	1.0	1.0	2.0	3.0	4.0	5.0
0.35	1.0	(Lit) Literature and Theatre	0.6	0.1	0.4	0.02	0.9	0.1	1.1	0.24
0.55	1.0	(Math) Mathematics	0.1	0.01	0.1	0.01	0.2	0.01	0.2	0.03
1.0	1.0	(Mil) Military affairs	1.0	1.0	1.0	1.0	1.0	1.0	1.8	2.2
4.0	8.0	(Mus) Music	6.0	2.0	6.0	1.0	6.0	2.0	4.8	3.0
1.0	2.0	(Nat) Natural science	1.0	1.0	1.0	1.0	1.0	2.0	1.8	4.7
1.5	2.0	(Pad) Education	2.0	1.0	1.0	1.0	3.0	2.0	5.0	4.2
5.0	4.0	(Phil) Philosophy	8.0	2.0	11.0	2.0	6.0	2.0	2.1	1.2
0.35	1.0	(Rei) Travel	0.4	0.3	0.3	0.2	0.9	1.0	0.9	1.2
0.55	1.0	(Rel) Religion	1.0	0.1	1.0	0.1	0.8	0.1	0.23	0.07
2.0	6.0	(Sold) War commentaries	3.0	1.0	3.0	1.0	3.0	2.0	0.62	4.4
4.2	7.0	(Soz) Social science	8.0	0.3	10.0	0.2	6.0	0.4	3.2	0.84
0.8	1.0	(Tech) Technology	1.0	0.6	1.0	1.0	1.0	1.0	0.4	0.56
		(Ub) Sports								

Hence, reading interest is entirely relative. If libraries were content to supply only what people could be induced to read, their task would be simple indeed. The daily newspapers would serve the purpose. But libraries seek to give the reader as complete satisfaction as possible. It is necessary not merely to have some books on subjects the reader wishes to know more about but to have books that are interesting to read and sufficiently truthful or convincing to win his respect. Furthermore, the reader must be informed that the particular books he would like are available; and, where necessary, he must be helped to find them.

Only in so far as these conditions exist is the reader's satisfaction complete. One rarely discovers reading that tells him just what he wants to know in a highly interesting fashion. We therefore read the best we can get. Our interests are satisfied only partially. Hence, to determine what reading is *most* acceptable to a given group, we fall short of the mark if we consider only what the group actually reads. We succeed only in so far as we can discover what they would read if they could.

What people read when they can is material upon subjects of immediate interest, written in an interesting style, by someone well informed on the subject, presented in suitable form, and easy to get hold of. Hence, reading interest must take each of these factors into account. Actual reading seldom represents more than a few of them. Reading interests are wants that are seldom satisfied. Actual reading is a selection from what is to be had. The two must be kept distinct if we are to understand either one clearly. If this distinction and the reasons for making it are plain, we may now consider in turn the two purposes in the light of Hofmann's study.

With reference to the attempt to define the actual book-reading of the groups, certain highly important assumptions are not fully discussed by the author. The first of these is the assumption that the books borrowed by a group from a given library represent all types of book read by the given group. This assumption is open to serious question in the case of the better-educated groups—e.g., intellectual women and academic men. These groups represent so small a proportion of the total patronage, and their borrowings are so small a proportion of the total borrowings, as to suggest that they read many books obtained from other sources. To the extent that the given library is not the only source of the books read by each group, the circulation data of one library give an incomplete picture of the book-reading done by groups represented among its clientele.

Another important assumption is that the thirty-four headings, used to classify the books borrowed, are sufficiently discrete (i.e., restrictive) to justify the circulation count. That they are far more adequate for this purpose than the ten major classes of the Dewey system often so used by American students is, of course, entirely obvious. Nearly all of the Dewey classes contain one or more popular subclasses that are logically irrelevant to the main head and to other subheads; for example, "prohibition" under "philosophy."

But Hofmann does not state to what extent two or more classifiers, working independently, will place each of, say, one thousand random titles under the same headings. Without some such check on the reliability of the classification, it is, of course, unsafe to conclude that the headings under which most books circulate indicate the subjects on which most reading is done. One cannot be sure that a large number of borrowings from one class of books means anything more than that the classifier placed many popular books under the heading which represents the class. The classification needs further explanation.

A third assumption applies to the validity of the circulation record as a definition of what the groups actually read, namely, the assumption that a single visit to the library in five years is a sufficient basis for distinguishing readers from non-readers. One visit during the five years' period was sufficient to place the individual's borrowings into the count. Since the distribution of readers according to frequency of visits is not shown, we have only the average borrowings to indicate how many books each individual borrowed. Without knowing the range of the distribution, the averages do not show whether the books borrowed by a given group during the five years represent omnivorous reading by a very few or somewhat uniform reading by all members of the group. This is important because of the possibility that those who borrow very little from the given library may read books obtained from other sources. In this case the books borrowed by the heavy readers of the group might not fairly represent the group as a whole.

We may now consider the study of reading interests. How safely may the relative interest of each group in the thirty-four subjects be inferred from the data presented? This question involves attention to certain further postulates.

The author holds that a reader expresses interest in the subject of which a book treats when he borrows the book from a library. This assumption is basic, as the author himself states: "Unsere Untersuchung beruht auf der Voraussetzung, dass sich in dem Griffe des Lesers zum Buche sein Interesse ausspricht."<sup>1</sup> To accept this proposition, however, one must make other assumptions, several of which are untenable.

For example, one must assume at the outset that "reading interest" is the same or is consistent with "interest in reading books." For most groups of American readers, this assumption is shown to be fallacious, by evidence in the reviewer's possession. Since only book loans appear in the library record, interests expressed only in reading newspapers and magazines are, of course, not recorded at all.

Second, if perforce we consider only interests in book-reading, we must assume that one or more books may be found in the library on each of the subjects that each person may wish to read about. This assumption is ren-

<sup>1</sup> Page 20.

dered doubtful by comparing columns I and II in the foregoing table. The close agreement ( $r = .705 \pm .058$ ) shows that, in general, more books are borrowed from the larger classes and fewer books from the smaller classes. This can only mean that people either read what books there are or that the readers' interests were known in advance of the record, and books on these subjects were purchased accordingly. Unless it can be shown that the former explanation has no weight, we must conclude that the actual collection restricts the potential readers' choice. To the extent that it does this, the circulation is not a valid measure of the readers' free choice.

Third, we must assume that the reader makes a deliberate selection from among the books available. Such selection is not possible when the collection is too large to be examined in detail at one time. If it were possible, it would not apply to the Leipzig collection because of the extent to which library assistants direct the reader in selecting his reading. The record, however, may be all the more reliable on this account, if the assistants choose from the whole collection and if they are equally competent to diagnose the interest of all readers in all types of reading. No information on this latter possibility is supplied.

Finally, to validate the circulation record as a definition of reading interests, we must assume that the heading under which a given book is classified will indicate the nature of the reader's motive in selecting it. Even if interest in the subject treated were the only factor in the reader's selection of books, it does not follow that he who borrows a book of "sea stories, travel stories, etc.," is primarily interested in the sea or in travel. He may be far more attracted by the characters in the stories or by some other element that does not appear in the heading. Yet the number of books borrowed from this class is assumed to indicate relative interest in the idea expressed by the name of the class.

This already long review cannot be concluded without comment on the importance of the contribution to future research in this field. Taken as a whole and on the implied assumptions, the data on the borrowings of books by the several groups are, by all odds, the most valid data available on the group circulation of books. Similar studies in other communities and under different types of public-library administration are essential if librarians are to benefit in any large way by similar evidence concerning their readers' preferences. The unsupported assumptions noted in the foregoing paragraphs are emphasized only to stress the importance of carefully controlled studies.

The data on reading interests are less trustworthy but are none the less important as indicating the limitations of circulation data as used to define group interests. The complexity of the problem of defining reading interests, as previously shown, is such that a satisfactory definition requires attention to each of several other factors that often have more to do with satisfaction in reading than the nature of the subject treated. Such factors are, the readability of the book, its form, its accessibility, the degree to which it is adver-

tised and the truthfulness or convincingness of the contents. It is quite probable that advertising, accessibility, readability, and form, determine library circulation as much as, or more than, the reader's desire to occupy his mind with a given subject. When reading is available on all interesting subjects in books that represent each of these factors to the same degree for a given group, then and then only will relative circulation of titles constitute a valid indication of relative group interest in the subjects treated. Meanwhile, the data should be taken at their face value as showing what *titles* are most popular among the various groups of readers.

Hofmann's study cannot be overpraised as a contribution to the relationship of subject interest to book circulation. It presents data of immediate value in selecting books for his own library and is an important addition to the technical literature of the field. To those of us at Chicago who are working on the same problem by very different methods, the close agreement between many of Hofmann's findings and our own has made the publication of this volume a highly exciting event.

The present financial crisis in Germany leads anyone who has followed Hofmann's work with anything like the attention it deserves to hope that his Institut für Leser- und Schrifttumskunde will not have to be abandoned for lack of funds. There is no other institution, to the best of our knowledge, that is dedicated primarily to the study of reading behavior which conducts its studies in a large representative collection of books. The zeal and intelligence shown in the collection and interpretation of data concerning public-library processes that affect reading are unique, and it will be a serious misfortune to world-librarianship if the good work does not go on.

DOUGLAS WAPLES

GRADUATE LIBRARY SCHOOL  
UNIVERSITY OF CHICAGO

## REVIEWS

*Handbuch der Bibliothekswissenschaft.* Edited by FRITZ MILKAU. Vol. I, *Schrift und Buch.* Prepared by HANS SCHNORR VON CAROLSFELD, ALOYS BÖHMER, ALBERT BOECKLER, KARL LÖFFLER, KARL PREISENDANZ, ERICH VON RATH, JULIUS RODENBERG, HANS WEGENER, MAX JOSEPH HUSUNG, ERNST KUHNERT, GEORG SCHNEIDER, AXEL VON HARNACK. Leipzig: Otto Harrassowitz, 1931. Pp. xix + 876. Rm. 80.

It has been known for some time that Fritz Milkau, former general director of the State Library of Prussia, was engaged in the preparation of a comprehensive work on library science, intended to replace—at any rate in part—the manuals of Graesel, Maire, and others, on which librarians and students preparing for the profession have so far been obliged to rely as their chief guides. That a publication of this scope and character, issued under the direction of a famous librarian, now retired, but evidently still at seventy-one in possession of his full mental vigor, was destined to become an event in the annals of the profession, was expected by all who knew something of the man and his previous accomplishments. That these expectations have been amply fulfilled is proved by an examination of the present volume, the contents, type, binding, and general makeup of which leave indeed little to be desired.

In the compilation of the first volume Dr. Milkau has been assisted by a number of eminent librarians and bibliographers, who take up the history of books and manuscripts, writing, printing, and other topics intimately related to the historical side of library development, in the following order:

Hans Schnorr von Carolsfeld, general director of the Munich State Library, "Languages and their relationships."

Aloys Böhmer, director of the Münster University Library, "Writing and its development."

Albert Boeckler, librarian of the State Library at Berlin, "Book decoration and ornamentation."

Karl Löffler, head librarian of the Stuttgart Library [Landesbibliothek], "Manuscripts."

Karl Preisendanz, head librarian of the Karlsruhe Library [Landesbibliothek], "Papyrology."

Erich von Rath, director of the Bonn University Library, "Printing and book illustration prior to 1600."

Julius Rodenberg, librarian of the Deutsche Bücherei, Leipzig, "Printing from 1600 to the present."

Hans Wegener, librarian of the State Library at Berlin, "Book illustration in the seventeenth and eighteenth century."

Julius Rodenberg, "History of illustration, 1600 to the present."

Max Joseph Husung, advisory librarian, State Library at Berlin, "History of book-binding."

Ernst Kuhnert, head director of the State Library at Berlin, "History of the book-trade."

Georg Schneider, advisory librarian, State Library at Berlin, "Theory and history of bibliography."

Axel von Harnack, advisory librarian, State Library at Berlin, "Academies and learned societies."

These thirteen chapters are preceded by an admirable Introduction by the editor himself, in which he first discusses the term "library science" as adopted by Martin Schrettinger more than one hundred years ago, and since used freely on the title-pages of books and in library periodicals, until it has now received the stamp of official approval through the establishment, first, of a professorship of the "library sciences" in the eighties, and finally, of the Institute of Library Science at the University of Berlin in 1928. He also outlines the scope and meaning of the term as introduced by Schrettinger one hundred years ago, and what the same designation is assumed to cover today.

German libraries and German library organization naturally furnish the foundation on which the book rests. At the same time, the libraries and library administration of other countries also receive adequate consideration. The work is intended for the libraries of a scholarly character (*Wissenschaftliche Bibliotheken*). The sister-libraries, public libraries (*Volksbibliotheken*), will be taken up in a separate, supplementary volume by Dr. Constantine Nörrenberg, well known to American librarians through his efforts toward the development of the public-library movement in Germany.

The second volume, which will appear in another year under the title *Bibliothekswesen*, will be in two parts. The first part, "History," will contain a chapter, by the editor, on the history of libraries from the earliest times to the present. Then will follow a chapter on special libraries, in which Dr. Paul Trommsdorf, known to many American librarians through his visit here many years ago and now chief librarian of the technical school at Hanover, will discuss the libraries of the higher technical schools. Dr. Gotthold Naetebus, retired director of the University Library at Berlin, will deal with department and office libraries; Dr. Heinrich Uhlendahl, director of the Deutsche Bücherei, Leipzig, will write on that institution; Dr. Otto Glauning, director of the University Library at Leipzig, will add a third chapter on private libraries and bibliophily.

In the second part, "Administration," to contain nineteen chapters, the editor will contribute the chapters on "Bibliothekspolitik," the library staff, and aesthetics in the library. He will be supported ably by Georg Leyh, director of the University Library of Tübingen, who writes on library finance and budgets, buildings and construction, notation and arrangement, statistics, bureaus and registration; Rudolf Kayser, on cataloguing; Ernst Kuhnert, on duplicates; Otto Glauning, on publicity, binding, marks and methods of designating ownership; Emil Gratz, on acquisition and selection; Gustav Abb,



on the use of books and libraries, stack administration; Heinrich Uhlendahl, on library associations, information, and reference service. Finally, Hugo Krüss, the present general director of the Prussian State Library, will discuss international relations.

We have, then, before us a work, truly monumental in scope and comprehensiveness—one which, in all libraries and schools that aim to keep abreast of the best thought in regard to our work and profession, will be considered a primary source of information and reference on the history of books and libraries, as well as on the methods and technique incidental to their care and operation.

J. C. M. HANSON

GRADUATE LIBRARY SCHOOL  
UNIVERSITY OF CHICAGO

British Museum. *General catalogue of printed books*. Vol. I, *A-AEG*. London: William Clowes & Sons, Ltd., 1931.<sup>1</sup>

EDITOR'S NOTE.—In describing the *General catalogue*, it is always in order to warn younger librarians and bibliographers that the British Museum has not changed its methods to conform to the *Catalog Rules* adopted jointly by the (British) Library Association and the A.L.A. The prospective user of the catalogue should therefore begin by familiarizing himself with the *Rules for compiling the catalogues in the department of printed books in the British Museum*. The peculiarities of the Rules are neither numerous nor complicated, but are so far-reaching that the student ignorant of them may be hopelessly confused by the *General catalogue*.

The choice of the main entry "is, as a rule, based on the information supplied in print in a perfect copy of the book itself, and on that only" (Rule 4). Consequently pseudonyms often (Rule 20) and even anonyms (Rule 18) sometimes are preferred to the author's real name; e.g., "ABAFI (LAJOS), *pseud.* [i.e. LAJOS AIGNER]," and *A letter to a Great Character* [i.e. John Adams . . . By William Cunningham] . . . 1811 (entered under *Adams* as catchword or subject of an anonymous title).

The rules for the choice of the part or the form of the author's name or the choice between alternative surnames (e.g., in case of changed names of the nobility, married women, etc.—Rule 11) are perhaps more sensible than ours, but different.

Authors of the same name are distinguished and arranged, not by dates of their lives, but by titles or descriptive epithets—honorary, official, or merely arbitrary (Rule 15), e.g.:

ABERCROMBIE (ROBERT).	<i>Author of "The New Self-Doctor"</i>
_____	<i>Lieutenant</i>
_____	<i>Minister of the Gospel at Pelham</i>
or, again: ADDISON (JOSEPH)	<i>Barrister-at-Law</i>
_____	<i>of Magdalen College, Oxford</i>
_____	<i>Rev.</i>
_____	<i>(Right Hon. JOSEPH)</i>

<sup>1</sup> The new British Museum Catalogue is published at £4 per volume. The cost to libraries which were advance subscribers is about £2 8s. per volume. It is estimated that there will be about 165 volumes in the completed catalogue and the Museum hopes to publish about five volumes annually. The catalogue is obtainable direct from the British Museum in London and is supplied to most American libraries through the Museum's own book-seller.

Anonymous entries are made under the first noun (if there is one) of the title (Rule 18). Dr. Bishop remarks on the number and variety of such entries under *Account*; one finds the title, *On the relative advantage of tubs with bottoms to tubs without under Advantage*; and the words *Address*, *Advice*, etc., etc., introduce similar groups.

There are place-names as entry words where we use the name of a society; there are form entries where we should enter under title (Dictionaries, Directories, Ephemerides, Periodicals, etc.—Rule 17); and, in case of anonymous works, there are entries under subject where we should enter under title, like the *Adams* entry just mentioned or like *The Cause of Liberty and Free Enquiry asserted: or, a vindication of the Essex-Head Society against the author of a late pamphlet called an Address to the Public*, where the entry word is *Address* (Rule 19).

Dr. Bishop's note on the peculiar arrangement of the *Aberdeen* entries should be supplemented by reference to Rules 34–38—especially Rule 36 governing the choice and arrangement of references from collaborators, editors, etc.; from subjects (in case these are proper names referred to in the title); and from names of authors of parts of books. Under ABATI—OLIVIERI—GIORDANI (ANNIBALE DEGLI), the sixty-three main entries and so-called cross-references (which we should distinguish as main entries, added entries and subjects) are arranged: "cross-references" first and then main entries alphabetically according to the first word in the title of the book (not according to the first-noun principle which determines the main entry word for anonymous works!). Under ABAELARDUS, the 124 entries are arranged under the subheads *Works*, *Letters*, *Single Works* and *Appendix*; the *Appendix* including, in separate alphabets, the cross-references (which come first under ABATI-OLIVIERI-GIORDANI) and a group of titles containing the name *Abailard*, etc. (e.g., dramatizations). Under ADDISON (*Right Hon. JOSEPH*), there are twenty-three such subheadings, all center-headings and printed in bold-face capitals; and there is the further convenience of a tabulation of this "Arrangement" at the beginning of the "Right Hon. Joseph's" entries. It would cost little space and type, and would save much confusion if *Abaelardus* and all other authors' entries are subdivided could be treated in the same fashion as *Addison*.

Are the following titles placed according to some rule with which we are not familiar, or are they inconsistencies in choice of entry or arrangement?: "A. A a b c d e f etc." appears in col. 4, but "A B C Begin. A a b c etc." does not appear until col. 93; and "A. A for apple" and "A., APPLE PIE. A apple Pie" are as far apart as cols. 2 and 92.

In the descriptions of the books, it is comforting to have, in this edition, the pagination and other items of collation systematically recorded, but the size of the book is indicated only as quarto, octavo, etc., according to the folds of the sheet (Rule 30)—a method with which, by the way, we are too little familiar—when, oftentimes, we need exact measurements in inches or centimeters as well.

The wealth of the *General catalogue* for bibliographical purposes might be taken for granted even by the inexperienced. If he doubts it, let him count entries under some such author as *Addison*, or even *Abaelardus*—and find that the British Museum has more than twice as many of these entries as are represented in one of our union catalogues (of cards from Library of Congress, John Crerar, the Universities of Harvard, Illinois, and Michigan, etc.).

The appearance of the first volume of the new edition of the *General catalogue of printed books* of the British Museum is an event in the library world. Totally aside from the inability of libraries of fairly recent foundation to acquire copies of the *General catalogue*, the need for a new edition to take the place of the original issue and the supplement has been painfully manifest for the past fifteen years. Probably no other single bibliographic tool has

had the wear from repeated consultation which the British Museum *Catalogue* has experienced in all the major libraries of the world. Most unfortunately, the wood-pulp paper used for the edition begun in 1881 did not stand up under the strain and had begun to crumble and break, to the point where rebinding was almost entirely impossible. In the University of Michigan Library resort was had to the device of covering each page with silk gauze to hold it together under the constant use to which the volumes were subjected. (Incidentally, it may be remarked that the expense of this protection has proved greater than the subscription price of the new edition.) A reissue, therefore, which combines in a single alphabet the original catalogue, the supplement, and the accessions received since the supplement was issued is sure to be of the greatest possible use to scholars and to librarians.

The new issue is handsomely bound in full red buckram. It is printed on rag paper of high quality, in the same style of type in double columns which was employed in the old edition. The typographical appearance of the volume could hardly be improved upon. The captions are clear, the spacing is admirably done, the registration seems perfect, and the catch words are at once seen, so that quick consultation is easy and simple.

The familiar difficulties of using the British Museum *Catalogue* are practically all to be observed in the new edition. One has to remember that it is not only compiled on rules now happily unfamiliar in American libraries but also that certain peculiarities of the earlier editions must be watched for in the new one.

The entries under *Aberdeen* are a case in point. The publications of the New Spalding Club, the Spalding Club, and the Third Spalding Club, are here duly entered in the series of subheadings under *Aberdeen*; but they are necessarily separated because of the intervention of the publications of other societies and institutions in the alphabetical order.

Under the University of Aberdeen, further, one is required to note an *Appendix*; and later on there is an APPENDIX under the city of Aberdeen which contains at least one entry repeated from the appendix under the University.

It will pay any student of cataloguing—or for that matter, any student of literature—to examine carefully the entries under the surnames *Adam* and *Adams*. It would be difficult to find in the same compass so many illustrations of the difficulties which beset the cataloguer preparing entries for the catalogue of a major library at the present day.

As users of the British Museum *Catalogue* well know, there are many entries under catch words. For example, the entries under *Account*. The various title entries under *Account* are followed by the "Brief accounts," the "Compendious accounts," the "Critical accounts," the "Curious accounts," the "Descriptive accounts," the "Full accounts," the "Historical accounts," etc. No one is likely to be wholly satisfied with any rule for the handling of anonymous publications whose author is unknown. None the less, one would suppose that

the entry under the first word of the title not an article was a sufficiently well-established practice to be observed even by the British Museum.

A careful study of a number of the entries reveals many of very recent years and a surprisingly large number of items of American origin. It is perfectly apparent that the *Catalogue* fulfills its promise of including all the books in the British Museum down to 1930. It is surprising to note how many pamphlets and relatively unimportant books written by American authors and not reprinted in Great Britain are found in this first volume.

One infers that the publications of academies are to be scattered through the text under the seat of the academy. Evidently an Academies volume is not contemplated. This is probably a decided advantage.

The Preface, which is signed by the Keeper of Printed Books, Mr. W. A. Marsden, and dated November, 1930, gives a brief historical account of the catalogues of printed books of the British Museum.

The generosity of the Rockefeller Foundation, which has made possible a reduced subscription price to American libraries, should not be passed over in this notice without mention. It is due to this aid from the Rockefeller Foundation and the hard work of the Committee of the Bibliographical Society of America, that enough subscriptions were secured from America to warrant the Trustees of the British Museum in proceeding with this most expensive venture. The thanks not only of American librarians but of all users of American libraries are therefore due to the Rockefeller Foundation for this timely and gracious aid to a most important and significant bibliographic enterprise.

WILLIAM WARNER BISHOP

UNIVERSITY OF MICHIGAN

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*Books for junior colleges.* By EDNA A. HESTER. Chicago: American Library Association, 1931. Pp. vii+194. \$3.25.

Within recent years the rapid development of the junior college has led to an increasing dependence upon the library. The growth of this institution was so rapid that there was hardly time for systematic methods of book selection to be formulated, and a demand has therefore been expressed on many sides for assistance. Miss Hester's compilation undertakes to answer this demand to some extent, particularly in suggesting titles useful for purposes of collateral reading.

The titles listed in *Books for junior colleges* are classified under twenty-nine junior-college courses. There are also sections on general reading, general periodicals, and reference books. That this compilation will fill a need in many junior-college libraries there can be little doubt. Miss Hester has enlisted the aid of an imposing number of academic assistants, and the result is a useful bibliography which any college library will do well to consult.

Miss Hester tells in the Preface how the lists were prepared, though, unfortunately, her description is so general that at times, especially when one would like to follow her procedure with a view to duplicating it or possibly improving upon it, one feels considerably let down. The following description will make my meaning clear. A person, well recommended (by whom?), prepared a tentative list, several copies of which were sent to others (which others?). The latter added suggestions and criticisms, and a new list was compiled and again sent out (to whom?). Authorities (specifically who, and how were they selected?) were then consulted, and eventually a list was evolved upon which there was considerable agreement (by whom?). Finally, some one (who?) checked the list for balance and difficulty.

From the standpoint of this compilation alone, the real test of its value is the contents, for a good list might conceivably result from empirical methods. It is therefore useful to check Miss Hester's list with another list compiled two years ago for the use of junior-college libraries. Although Miss Hester's is, as she says, a pioneer work based on pooled judgments, it is not the first of its kind, since the reviewer is personally acquainted with at least two others—namely, Eugene Hilton's *Junior college book list* (University of California Press, 1930) and the list included in W. W. Gibson's unpublished dissertation, "Selection of basic library books for certain courses in junior colleges" prepared at the University of Iowa. Since Hilton's list was taken as a basis of comparison with Miss Hester's, it will be helpful to sketch briefly the method used in its compilation.

Hilton compiled comprehensive bibliographies for each of thirty-two junior-college courses, the titles having been used or recommended for use in these courses. The sources contributing to the bibliographies were the University of California and Stanford University reserve-book room and syllabi lists for a three-year period; the A.L.A. catalogue; two independent university lists; and books recommended for consideration by eighty-six leading American publishers. The titles thus secured were arranged by courses and were checked by faculty members (1) of leading public junior colleges in California, (2) of junior colleges holding membership in the North Central Association or in the American Association of Junior Colleges, and (3) of leading state and private universities.

The instructors checked each title as "indispensable," "desirable," "valuable as supplementary material if funds permitted," or, finally, as "failing to qualify in any of the three classifications enumerated." Independent judgments were received from 1,193 instructors, and the number of judgments for each course ranged from 16 to 77, with an average of 37.3 per course. The relative value of each title for use in the course was determined by assigning numerical values to the votes of the judges, and pooling the scores assigned to each title. The titles were then arranged in order of preference for each course as determined by the composite votes of the judges.

Hilton's technique has been thus fully described because it presents an

objective criterion for selecting books in terms of a specific objective; in this case, to serve as reading collateral to one or more junior-college courses. As far as one may determine from the Preface to Miss Hester's book, her method, although similar to Hilton's in her dependence upon the judgment of experts, is not nearly so carefully worked out. But since the practical librarian is primarily interested in results, let us see how the lists compiled by Hilton and Miss Hester compare.

Two courses were selected for the comparison, sociology and botany. Since the upper halves of Hilton's lists constitute the really valuable titles, the titles scoring highest in the judgment of the college instructors, only the upper halves of the selected lists were compared with Miss Hester's lists for these courses. The question was asked: Which titles on the upper half of Hilton's list for sociology (later, for botany) are omitted from Miss Hester's list? Of 95 titles listed by Hilton, Miss Hester includes but 27, or 28 per cent. Of the first 20 on Hilton's list, she has omitted the following 10: Cooley, *Social organization*; Commons, *Races and immigrants in America*; Edman, *Human traits*; Fairchild, *Immigration*; Goddard, *The Kallikak family*; Conklin, *Heredity and environment* (though this title is included under three other courses); Thomas, *Source book for social origins*; Ross, *Outlines of sociology*; Semple, *Influences of geographical environment*; and Case, *Outlines of introductory sociology*.

The comparison of the botany lists yields much the same results. Of the 44 titles on the upper half of Hilton's list Miss Hester has included 18, or about 41 per cent. Of the first 20 on Hilton's list, she has included 11, omitting the following: Smith *et al.*, *Wisconsin textbook of botany*; Coulter *et al.*, *Textbook of botany*, two volumes; Strassburger, *Textbook of botany*; Ganong, *Textbook of botany for colleges* and *The living plant*; Sinnott, *Botany*; Gray, *New manual of botany*; Locy, *Biology and its makers* (though listed under zoölogy); Jackson, *Glossary of botanical terms*.

The reviewer is not prepared to say whether similar discrepancies would appear if other courses were checked, as were the two selected at random. Neither is he prepared to say that the titles included on Miss Hester's list are inferior to those on Hilton's. Considering the fact that competent subject-matter specialists aided Miss Hester, it is quite likely that her titles are not objectionable. But the point is this: are they the *most useful* titles for a junior-college library which has, after all, a limited budget and cannot afford to experiment or take chances?

Based on the evidence brought forward in this review, it appears probable that Miss Hester's lists will be useful to junior-college librarians in supplementing other basic collections. Librarians with a limited amount of money to spend on organizing collections for one or more departments will do well to supplement Miss Hester's lists by employing any of the following suggestive aids:

1. Consulting the faculty of the department for which the collection is to be organized.

2. Selecting a basic text, and using the references cited in footnotes and bibliographies as a checklist on which one or more faculty members of the particular department may express relative preferences.

3. Comparing the titles included in the lists compiled by Miss Hester, Hilton, and Gibson, for frequency of mention.

4. Considering the collections in neighboring libraries upon which students depend for a considerable portion of their collateral reading.

LEON CARNOVSKY

GRADUATE LIBRARY SCHOOL  
UNIVERSITY OF CHICAGO

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*Dictionnaire historique et biographique de la Suisse*, publié avec la recommandation de la Société Générale Suisse d'Histoire, et sous la direction de MARCEL GODET, Directeur de la Bibliothèque Nationale Suisse, et HENRI TURLER, Archiviste de la Confédération Suisse, avec de nombreux collaborateurs. 7 vols., of about 800 pages each. Neuchâtel, Switzerland, 1920-32. 500 francs (\$97.00), sold by subscription only.

The *Dictionnaire historique* was undertaken at the close of the war by the very energetic publisher V. Attinger. Confident of success, since this new work was to be a companion publication to the well-recognized *Dictionnaire géographique de la Suisse*, he launched the subscription with the revival of business in 1920. Only three volumes had been completed when Attinger died suddenly; and a group of friends and admirers, to insure the completion of the great task, formed a consortium and secured the necessary financial backing for the project.

The same conscientious scholarship which had inspired the *Dictionnaire géographique* inspires the *Dictionnaire historique*. It can be safely asserted that the accuracy of the data therein is above the average of that usually found in such large works of reference. The presentation is meant to be concise rather than brilliant, but the information is always first hand. These qualities account for the fact that the *Dictionnaire historique* could be listed, even in an early stage of publication—in 1929—in Mudge's *Guide to reference books*.

Almost all the contributors are professors at Swiss universities, or archivists in large cities, or again state librarians. The supervision of Marcel Godet, himself a historian of repute, is at once a guaranty.

Apparently, no particular period or subject has either been neglected or favored at the expense of another. The various historical phases are fully treated, from the days of the lake-dwellers (whose most important stations in Europe were on the Swiss lakes) to the present time. In turn are taken up the early civilizations of the Helvetians and the Burgundians, the conquest by Julius Caesar, the Roman settlements, the age of Christianization (with especial reference to the establishment of the Irish monks who founded Saint



Gall), the first alliances of the primitive cantons in the thirteenth century, the heroic time of William Tell, the era of the Reformation with Basel, Bern, Geneva, and Zurich as centers of religious strife, and the Napoleonic period.

Long monographs on the principal cities deserve special praise. Included in this category are Basel, famous especially since the Renaissance with its long line of scholars and writers from Erasmus to Nietzsche; Bern, the present federal city with its international bureaus (post and telegraph, international copyright, etc.); Fribourg with the Catholic university; Geneva, the stronghold of French Protestantism in the days of Calvin and, since then, the cradle of the Red Cross, and the seat of the League of Nations; Lausanne; Lucerne; Saint Gall, with its famous monastery and the library housing priceless manuscripts for the history of church music, the *Psalterium aureum* of Folchart, and others; Soleure, the early capital of Switzerland; Zurich, for centuries the clearing house of ideas exchanged between Latin and German civilizations.

Switzerland has been the stage of much theological controversy. Competent scholars have therefore been secured to treat Zwingli, Calvin, Erasmus, and Osterwald, whose French version of the Bible is to French Protestants what the Luther translation is to the Germans, and the King James version to the English. Pedagogy is represented chiefly by Pestalozzi and Père Girard; literature by J.-J. Rousseau, Madame de Staël, Benjamin Constant, Vinet, Édouard Rod, Gessner, Haller, Gottfried Keller, C.-F. Meyer, etc.; science, by the Bernouillis in Basel, by the De Saussures (especially Horace Benedict, the first to climb Mont Blanc), the Pictets (Raoul P. was the first to liquefy oxygen), the Fournays, and the Claparèdes, of Geneva.

It ought to be noted that a number of articles on American topics offer information which cannot be easily duplicated. Adequate treatment is not only given men like Agassiz, Guyot, and Prince, Swiss scholars who came to America because of political disturbances which deprived them of their chairs in Neuchâtel, or to such an episode as the "Alabama affair," which was arbitrated in Geneva in 1873; but there is also a careful checking from local archives of the ancestry of whole families, long established in the United States. For example, there is the complete genealogy of the famous Virginia Congressman, nicknamed the "Black Eagle," a descendant of the well-known family of Graffenried in Bern. Elsewhere there is abundant information on the Geneva family of Gallatin, whose most famous representative in this country was the statesman and writer Abraham-Alphonse Gallatin, congressman, secretary of the treasury, minister to France, one of the founders of New York University, etc. Similarly, the article on Puryburg contains more information about that colony of Swiss settlers in North Carolina than the present writer has ever been able to get from any libraries in this country.

There are a great many illustrations, and the abundant colored plates are not only of fine quality but are interesting and relevant. There are, for example, a number of landscapes, the various local costumes of the twenty-two cantons, and the uniforms of Swiss soldiers of all times.

Volume VI is now at the press, and Volume VII will be ready shortly. Attention is called to the fact that there is also a German edition entitled *Historisch-Biographischer Lexikon der Schweiz* under the same editorship.

ALBERT SCHINZ

UNIVERSITY OF PENNSYLVANIA

*Antonio Panizzi: scholar and patriot.* By CONSTANCE BROOKS. ("Publications of the University of Manchester," No. 208. Italian series, No. 1.) Manchester: University of Manchester Press, 1931. Pp. viii+248. 10s. 6d.

What a man he was—Panizzi! Born in a petty Italian duchy the year after Napoleon's successful campaigns in the peninsula; an apothecary's son who turned to law and practiced not without success; on trial for political activities at the age of twenty-five; a hungry refugee in England, teaching Italian to keep body and soul together; appointed to the British Museum through the influence of Brougham nine years after his arrival in the islands; made keeper of printed books within six years and principal librarian nineteen years later; friend of Roscoe and Gladstone and Macaulay, of Prosper Mérimée and Louis Napoleon; a foreigner and a Catholic at the head of the British national library! You certainly will go far before you find the parallel.

This study by Dr. Brooks is primarily an investigation of Panizzi in connection with Italian unification, and in that respect is of greatest appeal to historians and students of political science. But the man's activities were never fixed by almanac or clock, and it would be difficult—not to say impossible—to speak of the librarian in this chapter or on this page, and on the next page or chapter to take up the Italian patriot striving to free his country from the Austrian oppressor. No one who cares for the past or present institutions can afford to neglect this study; no American librarian can fail to express a word of honor to the man who had so much to do with giving the British Museum its present commanding position.

Panizzi was unquestionably a great librarian, a great administrator, a scholar, a man of vision, as severe a driver of others as of himself—he worked sixteen hours a day, and one of the first things he impressed on young Louis Fagan when he placed him in the Museum was the duty of working twelve hours every day—and to these traits he added diplomatic and political abilities of real significance.

Fagan furnished a final and authoritative study of the official life of his patron and friend just fifty years ago, but his discretion and restraint are so proper and ever present that the man's personal traits are but lightly touched on. Fagan was probably too close to his subject to feel that what we nowadays call "human touches" are of any weight or moment. But most of us will feel that Dr. Brooks brings the man nearer to us when she tells that some

of his unlovers called him a fat pedant, that he was no model of patience and was also incapable of harboring grudges, that he delighted in table talk and was no mean judge of wines and food. Panizzi surely can permit his followers to make their final judgments on the basis of his achievements. And it surely is permitted to American librarians to believe that he must have felt at least a passing satisfaction when he read the dedication of Henry Stevens' *Catalogue of the American books in the library of the British Museum* inscribed "To the seven Italians who by their intelligent enterprise in foreign countries achieved the lasting remembrance and gratitude of America," beginning with Christopher Columbus and ending with Antonio Panizzi, "who, while Keeper of the Department of Printed Books, fully alive to the importance of the subject, and the necessity of collecting the literature of new countries while there was a reasonable probability of securing it with tolerable completeness, and, lest the literary acquisitions in all foreign languages might together dwarf those in the English, initiated the unrivalled collection of American Books described in this catalogue."

Surely no librarian on this side of the water can fail to approve when any effort is made to set forth the achievements of this remarkable man, Italian by birth but essentially British by adoption and naturalization, collector of books and administrator of one of the greatest libraries of all time.

H. M. LYDENBERG

NEW YORK PUBLIC LIBRARY

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*The Papers of the Bibliographical Society of America*. Vol. XXIV, Parts I and II. Chicago: University of Chicago Press, 1930. Pp. 200. \$4.00.

Of this new number of the Society's *Papers*, forty-two pages, approximately one-fifth, are occupied by three essays which every bibliographer must regard as welcome additions to his professional literature. Meta Harrsen writes of "Countess Judith of Flanders and the Library of Weingarten Abbey" in a manner that convinces even a reader ignorant of her field that she is completely competent in her scholarship. Miss Granniss describes the debt of bibliography to private book clubs, out of her mature familiarity with both subjects. As usual her writing is touched by the charm of her personality. Edward Laroque Tinker contributes an interesting but careful paper on Boimare the first bibliographer of Louisiana. All three of these essays are of natural growth. They are evidently rooted firmly in basic studies. Like anything natural they show no trace of conscious effort.

But as the reader turns to Constance H. Humphrey's "Check-list of New Jersey imprints" he enters a new atmosphere. Throughout her one hundred and five pages are to be found frequent traces of haste and uncertainty, each one a minor blemish in itself, but in their cumulative effect a serious detractor

from what might have been accomplished. When a bibliographer publishes his study of so important a subject as this he pre-empts the field for at least a decade. In so doing he assumes a responsibility for performing the task to the best of his ability. Miss Humphrey's work is so excellent, in the main, that one must blame the more severely her failure to maintain everywhere her usual standard. A little more time, a little more patience, a little more travel, must inevitably have reduced the number of her unsolved problems. In the same way another revision might have abridged the too long Introduction as well as adding page citations to the references to it from the body of the checklist itself, where they are now so tantalizingly vague.

The last fifty pages of this number are occupied by Nathan van Patten's paper on the "Medical literature of Mexico and Central America." Here we have bibliography at what one is tempted to call its very worst. The work was probably worth doing and the author has done it very well, but these virtues alone do not justify its publication, here or elsewhere. The author has no doubt achieved the purpose of his study; but this essay, as a by-product of his labor, does not even reveal the character of his main interest. The material is too vague to serve for either of its two possible purposes: it does not describe the progress of medical studies in the area chosen because it is limited to local publications; it also fails to show the local contribution to medical progress at large because its period is too brief. Thus it is neither a record of a particular culture nor data related to a particular field of human knowledge. Bibliography must be one or the other to be effective. Conceivably this bibliography was a necessary step toward a particular investigation; but publication requires the possibility of a public interest.

The busy editors of these *Papers* who give their time so generously to the promotion of bibliographical studies have a difficult task before them: they must fill these pages with material of not too low a standard, and they must encourage volunteer workers in the field. Would their task not be easier if the Society should adopt a program for co-operative research? For example, Professor Adams has often proposed a united attack upon our imperfectly recorded Americana.

PIERCE BUTLER

NEWBERRY LIBRARY

## INDEX TO VOLUME I

### ARTICLES

	PAGE
AKERS, SUSAN GREY. To what extent do the students of the liberal-arts colleges use the bibliographic items given on the catalogue card? - - - - -	394-408
(For biographical information see page 476.)	
BISHOP, WILLIAM WARNER. University libraries: some reflections on the dedication of the Sterling Memorial Library of Yale University - - - - -	243-54
(For biographical information see page 338.)	
BORDEN, ARNOLD K. The Sociological beginnings of the library movement - - - - -	278-82
(For biographical information see page 338.)	
BUTLER, PIERCE. The Dentition of <i>equus donatus</i> - - - - -	204-11
(For biographical information see page 212.)	
CARNOVSKY, LEON. Suggestions regarding an evaluation of methods in current adult-education practices - - - - -	377-93
(For biographical information see page 476.)	
CHRISTENSEN, CLAUDE H. Classification and cataloguing in the Scandinavian countries - - - - -	436-64
(For biographical information see page 476.)	
DRINKWATER, GENEVA. Three hundred days in Roman libraries - - - - -	67-71
(For biographical information see page 89.)	
HOWE, HARRIET E. The Library school curriculum - - - - -	283-90
(For biographical information see pages 338-39.)	
JOECKEL, CARLETON B. The Public library under the city-manager form of government - - - - -	121-51, 301-37
(For biographical information see page 212.)	
KEPPEL, F. P. The Carnegie Corporation and the Graduate Library School: a historical outline - - - - -	22-25
(For biographical information see page 89.)	
KETRING, RUTH A. Johann Neumeister: an assistant of Johann Gutenberg? - - - - -	465-75
(For biographical information see pages 476-77.)	
LEWERENZ, ALFRED S. Children and the public library - - - - -	152-74
(For biographical information see page 212.)	

# INDEX TO VOLUME I

501

	PAGE
PROSTOV, EUGENE VICTOR. Origins of Russian printing - - -	255-77
(For biographical information see page 339.)	
PUTNAM, HERBERT. Consultants at the National Library - -	18-21
(For biographical information see page 89.)	
RANDALL, WILLIAM M. The College-library book budget - -	421-35
———. What can the foreigner find to read in the public library? - -	79-88
(For biographical information see pages 89-90.)	
REECE, ERNEST J. The Service loads of library-school faculties -	37-56
(For biographical information see page 90.)	
REEVES, FLOYD W., and RUSSELL, JOHN DALE. The Relation of the college library to recent movements in higher education - -	57-66
(For biographical information see page 90.)	
SCRIBNER, B. W. Report of Bureau of Standards research on preservation of records - - - - -	409-20
(For biographical information see page 477.)	
SHAW, CHARLES B. The Compilation of "A List of books for college libraries" - - - - -	72-78
(For biographical information see pages 212-13.)	
STARKE, A. H. Children's reading - - - - -	175-88
(For biographical information see page 213.)	
WAPLES, DOUGLAS. The Graduate Library School at Chicago -	26-36
———. Reading studies contributory to social sciences - -	291-300
———. What subjects appeal to the general reader? - -	189-203
(For biographical information see pages 90-91.)	
WILLIAMSON, C. C. The Place of research in library service - -	1-17
(For biographical information see page 91.)	

## REVIEW ARTICLES

HANSON, J. C. M. Cataloguing rules of the Vatican Library: <i>Biblioteca Apostolica Vaticana, Norme per il catalogo degli stampati</i> -	340-46
WAPLES, DOUGLAS. <i>Die Lektüre der Frau</i> , by Walter Hofmann -	478-86

## REVIEWS

Abbott, Wilbur Cortez, <i>A Bibliography of Oliver Cromwell</i>	
AUGUSTUS H. SHEARER	105-6
Beust, Nora (comp.), <i>Graded list of books for children</i>	
HENRY HARAP	101-2
Bliss, Henry Evelyn, <i>The Organization of knowledge and the system of the sciences</i> - - - - -	
PIERCE BUTLER	92-94

	PAGE
Bonnardot, Alfred, <i>The Mirror of the Parisian bibliophile</i> (translated by Theodore Wesley Koch) - - -	PIERCE BUTLER 371-72
Boyd, Anne Morris, <i>United States government publications as sources of information for libraries</i> - - - - -	R. WEBB NOYES 359-60
British Museum, <i>General catalogue of printed books. Vol. I, A-AEG</i>	WILLIAM WARNER BISHOP 489-92
<i>British Museum catalogue of books printed in the XVth century. Part VI: Italy: Foligno, Ferrara, Florence, Milan, Bologna, Naples, Perugia and Treviso</i> - - - - -	PIERCE BUTLER 116-17
Brooks, Constance, <i>Antonio Panizzi: scholar and patriot</i>	H. M. LYDENBERG 497-98
Brown, Zaidee, and Goold, Clarissa L. (eds.), <i>Standard catalog for high school libraries: Supplement, 1926-29</i> -	LUCILE F. FARGO 98-99
Bushnell, George Herbert, <i>University librarianship</i>	THEODORE NORTON 215
Bushnell, George Herbert, <i>The World's earliest libraries</i>	FRANK K. WALTER 368
Butler, Pierce (comp.), <i>Materials for the life of Shakespeare</i>	PIERCE BUTLER 229-30
Carroll, Marie J., <i>Key to League of Nations documents placed on public sale, 1920-29</i> - - - - -	JAMES I. WYER 221-22
Childs, James B., <i>Library of Congress. An account of government document bibliography in the United States and elsewhere</i>	JAMES I. WYER 222-23
Committee on Library Extension of the American Library Association, <i>Library extension: Annual report, 1929-30</i>	HARRIET E. HOWE 110
Committee on Library Work with Children of the American Library Association (comp.), <i>Children's library yearbook. No. 2</i>	MILDRED HARRINGTON 104-5
Consentius, Ernst, <i>Die Typen der Inkunabelzeit</i> -	PIERCE BUTLER 116-17
Dahl, Svend (ed.), <i>Haandbog I Bibliotekskundskab under Medvirkning af en Række Fagmænd</i> - - - - -	J. C. M. HANSON 347-49
<i>Dictionnaire historique et biographique de la Suisse. 7 vols.</i>	ALBERT SCHINZ 495-97
Drury, Francis K. W., <i>Book selection</i> - -	DOUGLAS WAPLES 95-97
Drury, Francis K. W., <i>Order work for libraries</i>	HARRIET E. HOWE 94-95
Ellis, Jessie Croft (comp.), <i>Nature index: 5,000 selected references to nature forms and illustrations of nature in design, painting and sculpture</i> - - - - -	JULIA E. ELLIOTT 227-28
Eurich, Alvin C. (ed.), <i>The Changing educational world, 1905-1930</i>	GEORGE A. WORKS 372-73
Fargo, Lucile F., <i>The Program for elementary school library service</i>	ERNEST HORN 363-65



# INDEX TO VOLUME I

503

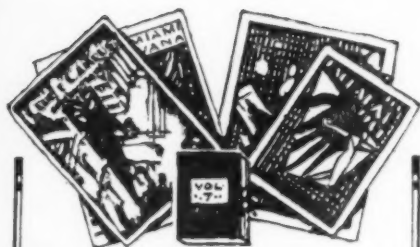
PAGE

Flexner, Abraham, <i>Universities—American, English, German</i>	
GEORGE A. WORKS	238-39
<i>Gesamtkatalog der Wiegendrucke. Band IV.</i> - -	PIERCE BUTLER 116-17
Hall, Fred S. (ed.), <i>The Social work year book, 1929</i>	
WILLIAM F. OGBURN	233-34
Hall, Lillian Arvilla, <i>Catalogue of dramatic portraits in the Theatre Collection of the Harvard College Library. Vol. I: A-E. Vol. II: F-K</i> - - - - -	HARRIET E. HOWE 109, 360
Haynes, Merritt Way, <i>The Student's history of printing</i>	
PIERCE BUTLER	360-61
Hester, Edna A., <i>Books for junior colleges</i> -	LEON CARNOVSKY 492-95
Kent, Raymond A. (ed.), <i>Higher education in America</i>	
FLOYD W. REEVES	117-20
League of Nations Library, <i>Brief guide to League of Nations publications</i> - - - - -	JAMES I. WYER 221-22
Lydenberg, Harry Miller (ed.), <i>Archibald Robinson, Lieutenant General Royal Engineers. His diaries and sketches in America</i>	
WILLIAM T. HUTCHINSON	236-38
Maerz, A., and Paul, M. Rea, <i>A Dictionary of color</i>	
MILDRED HARRINGTON	108
Mann, Margaret, <i>Introduction to cataloging and the classification of books</i> - - - - -	GRACE KELLEY 94
Milkau, Fritz (ed.), <i>Handbuch der Bibliothekswissenschaft. Vol. I, Schrift und Buch</i> - - - - -	J. C. M. HANSON 487-89
Mudge, Isadore Gilbert, Reed, Doris M., and Winchell, Constance M., <i>Reference books of 1929</i> - - -	WINIFRED VER NOOY 98
Mumey, Nolie, <i>A Study of rare books, with special reference to colophons, press devices and title pages of interest to the bibliophile and the student of literature</i> - - - - -	LESTER CONDIT 114-15
Orcutt, William Dana, <i>The Magic of the book: More reminiscences and adventures of a bookman</i> - -	GILBERT HARRY DOANE 112
<i>Papers of the Bibliographical Society of America. Vol. XXIV, Parts I and II</i> - - - - -	PIERCE BUTLER 498-99
Power, Effie L., <i>Library service for children</i> -	HELEN L. BUTLER 223-25
de Ricci, Seymour, <i>English collectors of books and manuscripts (1530-1930) and their marks of ownership</i>	
JAMES WESTFALL THOMPSON	233
Richardson, Ernest Cushing, <i>Classification, theoretical and practical. Together with an appendix containing an essay toward a bibliographical history of systems of classification</i> -	J. C. M. HANSON 216-18
Ruppel, A. (ed.), <i>Gutenberg Jahrbuch 1930</i> -	PIERCE BUTLER 116-17
Sander, Max, <i>Prices of incunabula</i> - - -	PIERCE BUTLER 116-17
Schneider, Georg, <i>Handbuch der Bibliographie</i>	
HENRY BARTLETT VAN HOESEN	350-53

	PAGE
Sears, Minnie Earl (comp.), <i>Standard catalog for public libraries: History and travel section</i> - - JAMES WESTFALL THOMPSON	99-101
Sears, Minnie Earl (comp.), <i>Standard catalog for public libraries: Science and useful arts section: an annotated list of 1,800 titles, with a full analytical index</i> - - - - - JEROME K. WILCOX	357-58
Section for Library Work with Children of the American Library Association (comp.), <i>Children's books from twelve countries</i> MILDRED HARRINGTON	103
<i>Sixth annual report of the Board of Education for Librarianship, 1929-30</i> - - - - - HARRIET E. HOWE	111-12
Smith, Dora V., <i>Class size in high school English. Methods and results</i> IRVIN C. POLEY	366-68
Smith, F. Seymour, <i>The Classics in translation. An Annotated guide to the best translations of the Greek and Latin classics into English</i> DEAN P. LOCKWOOD	353-56
Sorokin, Pitirim A., Zimmerman, Carle C., and Galpin, Charles J. (eds.), <i>A Systematic source book in rural sociology</i> GEORGE A. WORKS	234-35
Spaeth, John William, Jr. (comp. and ed.), <i>Vergiliana. A Selected list of books for library exhibits together with suggested material for exhibition labels</i> - - - - - PIERCE BUTLER	230-31
Stillwell, Margaret Bingham, <i>Incunabula and Americana (1450-1800). A Key to bibliographical study</i> JAMES WESTFALL THOMPSON	232-33
Tannenbaum, Samuel A., <i>The Handwriting of the Renaissance. Being the development and characteristics of Shakspeare's time</i> JAMES WESTFALL THOMPSON	369-71
XXXVIII* <i>Bibliographie géographique 1928</i> JAMES WESTFALL THOMPSON	227
Thomas, Joseph, <i>Universal pronouncing dictionary of biography and mythology</i> - - - - - WINIFRED VER NOOY	106-7
Walsh, John W. T., <i>The Indexing of books and periodicals</i> GRACE OSGOOD KELLEY	350
Winchell, Constance M., <i>Locating books for interlibrary loan, with a bibliography of printed aids which show location of books in American libraries</i> - - - - - F. L. D. GOODRICH	225-27
Wright, Edith A. (prepared by), <i>Bibliography of research studies in education, 1928-1929</i> - - - - - DOUGLAS WAPLES	361-63
Wyer, James I., <i>Reference work</i> - - - - - LEON CARNOVSKY	218-21







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